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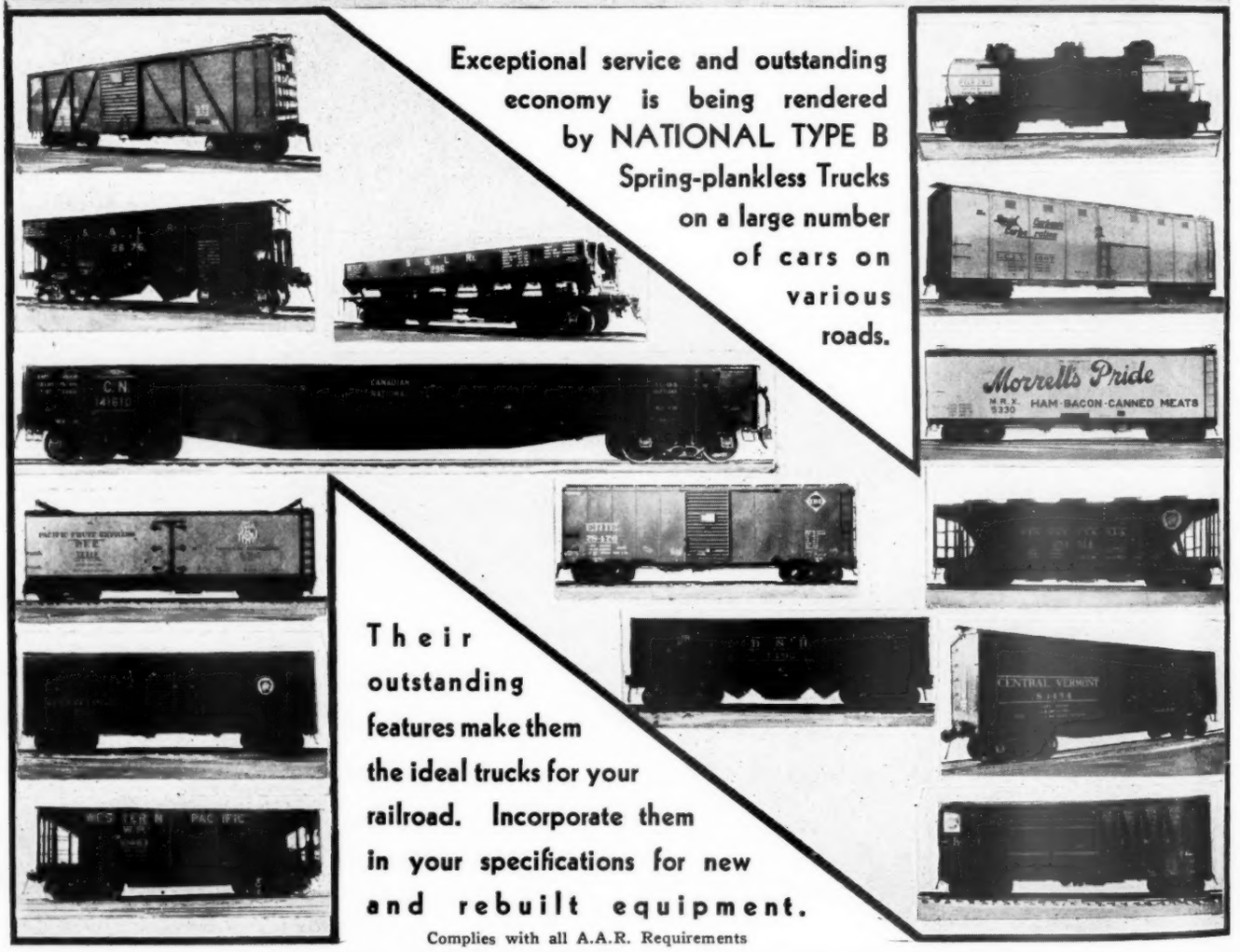
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John Quincy Adams

would have appreciated today's transportation.





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Further I.C.C. Power Over Railway Investments?

The conclusions of the Interstate Commerce Commission in its report upon its investigation into the ancient corporate history of the New Haven (*Railway Age* May 15, page 831) would be amazing, if we had not been habituated to that body's naive belief in its own beneficence and wisdom; and its suspicion of power wielded by anyone but itself.

In essence, that report reaches the conclusion that managements should be prevented by law from investing company funds without the Commission's permission, in any securities except those lawful for purchase by savings banks or trustees. The report is one-sided in that it cites only instances where railway investments have proved unprofitable, omitting those which have turned out well. In asking authority to prevent railway managements from making unwise investments, the Commission would as effectively shut off profitable ones also.

Fallacious Reasoning About Investments

It is not necessary, however, to pass judgment on the wisdom or folly of investments by railways in order to weigh the Commission's recommendation. In simple terms the Commission's reasoning is as follows:

Some railways have lost money by unwise investments.

"Our regulatory laws should be so framed as to afford as complete protection to investors in railroad securities as is practicable." (Quoted from conclusion in New Haven case.)

Therefore, the remedy is to prohibit such investments entirely except under the restrictions of the trustee laws, or by permission of the Commission.

If such reasoning is valid, then what is wrong with the following?

Some railways have lost money by using 90-lb. rail, or untreated ties, or 2-8-0 locomotives or oil fuel.

"Our regulatory laws should be so framed as to afford as complete protection to investors in railroad securities as is practicable."

Therefore, the remedy is to forbid the use of 90-lb. rail, or untreated ties, or 2-8-0 locomotives or oil fuel, except as the Commission, after lengthy hearings and long deliberation, may allow.

And if such reasoning is valid, what is wrong with the following?

Many railways have lost money because in its regulation of rates the Commission has failed to give effect to its own decision in 1922 that the railway industry is entitled to earn a fair return of 5¾ per cent on a fair valuation.

"Our regulatory laws should be so framed as to afford as complete protection to investors in railroad securities as is practicable."

Therefore, the Commission should be deprived of power to reduce any rate or prevent any advance in rates proposed by the railways when they are earning less than 5¾ per cent.

Or, upon the same principle, why is not the following reasoning valid?

Many railways have lost and are losing money because, owing to government action affecting wages, working conditions and taxes, their operating expenses and taxes are too high in proportion to the earnings they derive from their rates as regulated by the Commission.

"Our regulatory laws should be so framed as to afford as complete protection to investors in railroad securities as is practicable."

Therefore, the government should not take any action increasing operating expenses or taxes that will inevitably curtail net operating income and thereby impair or destroy the volume of railway securities.

Whatever have been the mistakes or sins of railway financiers and managers, and they have been many, they have been responsible in only small measure for the losses of railways as a result of which the average market price of railway stocks is now 36 per cent less than when the Commission fifteen years ago held the railways were entitled to 5¾ per cent, whereas the average price of industrial stocks is now 65 per cent higher than it was then.

Abolish Managerial Discretion?

The fact that the railroads have now and then lost large sums of money by unwise investments is unfortunate, but it is difficult to see how the Commission can take away from managements the right to lose money without at the same time taking from them the opportunity to make money too. Even if investing money is a task which railway managements are unable to perform successfully (and such an assumption cannot be made from the finding in this case, which cites only failures—no successes whatsoever), then might not the true remedy lie in an effort to increase managerial competence? Railroads do occasionally have money to invest (or at least they have occasionally had it in the past). If managers on the average do not have the ability to invest such funds to advantage (and, we repeat, the Commission has not proved that on the average they lack such ability)—then how can mere negative power by the Commission fill the void?

Granting to the Commission the power it seeks over railway investments would presuppose incompetence or lack of proper zeal on the part of railway managements in defending the interests of railway stockholders. The

Commission has not proved the prevalence of such failure. But, if it could do so, obviously no mere veto power over proposed actions of railway managements would be adequate to deal with the situation "to afford as complete protection to investors in railway securities as is practicable." Incompetence or unwillingness to protect the interest of stockholders—if it existed in the management of a railway—would not consist entirely of misguided actions which regulatory power could prevent. Rather also, it would consist as well of failure to act in many situations where positive action was needed—a failure which no veto power by regulatory bodies could possibly reach.

The Real Danger of Regulation

Indeed, the great danger of regulation is precisely that it sets up so many prohibitions and obstacles to action that, in circumventing abuses, it is only too likely to discourage activity of any kind.

The *Railway Age* is not any more in favor of financial juggling with the railways than the Commission is. The majority of people connected with the industry—managements, employees and investors—are honest-intentioned, yet they suffer with the whole industry when unfortunate or incompetent or dishonest financial management gives the industry a bad name before the country. But we emphatically do not believe with the Commission that the interests of stockholders and the investing public will be furthered merely by giving more veto power to the Commission. That body tends constantly to overlook the vast amount of managerial initiative and energy required to keep a large industrial enterprise in successful operation. It seems never to take into account the fact that a do-nothing management might prove even more costly to railway owners than one which, in its energetic exuberance, may occasionally depart from sound practice. Its panacea for any trouble of the industry is invariably to diminish managerial initiative to the aggrandizement of its own power.

The *Railway Age* holds the Commission in the highest respect and sincerely believes that its intentions are beyond criticism. We believe, however, that objective observers might well question whether its veto powers over the actions of honest and competent railway managers are not already altogether too great, without any further increase in them. And as for the specific recommendations in the findings in the New Haven case, in our opinion, the Commission has not proved that managerial skill in investment is more generally incompetent than otherwise, or that stockholders would be any better off with Commission regulation of this function than they are without it. Moreover, if managements have no proper regard for stockholders' interests (as it would be necessary to conclude if the Commission's remedy is to be accepted), then the Commission's recommendation is utterly inadequate to deal with the situation; indeed such powers, by stimulating do-nothingism, quite likely might harm security owners rather than help them.

Progress

Finding fault with and criticizing railroad managements is the favorite indoor sport of some representatives of industrial and commercial organizations. It is so easy to criticize something concerning which one knows little; and then, too, those listeners who know nothing at all about the railroad business may be impressed by the apparent ability and learnedness of the critic—this stimulates his ego and gives him a feeling of superiority.

The representative of an automobile manufacturer, in drawing comparisons, may overlook the fact that his product is turned out in great numbers at relatively low unit cost, while a locomotive may cost from fifty to a hundred times, or more, as much; must be designed for highly specialized service, and is manufactured in small lots. A few automobiles can actually be built to a new design and be tested to destruction before the design is perfected and production started. The designer of railway equipment does not have this advantage. He must, of course, profit from experience with earlier designs, but the new type, after careful checking of the design, must be built and tried out in actual service on the railroad. The same thing is true of all large equipment, such, for instance as a bridge or a steamship.

The life of these large and expensive pieces of equipment is, generally speaking, much longer than that of the smaller devices, and thus they cannot be so easily scrapped and replaced if they prove inefficient; the obvious recourse is to replace the defective parts or rebuild the car or locomotive, and this may not prove very satisfactory.

Safety in railroad operation is always of first importance and is, to a certain extent, also a deterrent against making radical changes in critical parts on a large scale.

In spite of these rather severe handicaps, as compared to less expensive products manufactured in large quantities, the railroads have made steady and rather remarkable progress in recent years. A review of some of the new or improved devices and equipment to be exhibited at the Atlantic City conventions next month will demonstrate this in no uncertain fashion, particularly if contrasted with similar exhibits in 1930.

Consider, for instance, just one element—improved materials. The full effect of these in car and locomotive construction, as reflected in reduced operating and maintenance costs and in longer life, will not be evident for a long time, but railroad officers already feel assured of worthwhile, concrete results of many applications of such new materials.

Incidentally, some of these improvements are likely to force refinements which will demand a larger degree of care and thoughtfulness on the part of employees in the operating and maintenance departments. Alloy steels in locomotive reciprocating parts greatly reduce the weights and the dynamic augment, which is so destructive to track and roadbed as well as to the equipment. The slight denting of one of these parts by a

tool or monkey wrench falling from the running board, or by the tap of a hammer in the hands of a careless worker, may cause stresses to concentrate at the slightly damaged part, starting a fatigue crack which will result in eventual failure.

No longer should such carelessness be tolerated, and yet it can only be eliminated by aggressive educational programs, possibly reinforced by disciplinary measures. Fortunately railroad employees have already been impressed with the need for unusual care in handling the high-speed passenger equipment which has recently been introduced, thus possibly making the step toward the better care of all equipment more evident and easier to accomplish.

Anyone who is at all skeptical about progress in railway equipment design will do well to compare critically the designs of 1937 with those of 1930, when the last Mechanical Division meeting was held at Atlantic City.

Defending the Cause Of Railway Stockholders

"Purchase of common stocks is often referred to as 'buying partnerships in business.' This definition does not express our attitude.

"A partnership implies a long-standing, through-thick-and-thin relationship. We take a less emotional view. We consider common stocks only as an investment vehicle, essentially temporary, for part of the funds of most of our clients when stocks seem to offer protection to purchasing power.

"As risk becomes too great, in our opinion, we unhesitatingly recommend conversion of common stock holdings into fixed income securities, cash, or cash equivalents, when such investments seem to offer better protection to capital . . . ."

From the Advertisement of a Firm of Investment Counsel

Owners who do not exercise the responsibilities of ownership, and who will not turn a hand to defend their property but "get out from under" at the first sign of danger—this would be another way of stating the above extraordinarily frank characterization of modern stock ownership. Not all stockholders are like this, of course. Some of them are loyal and do hold on through thick and thin, but, proportionately, is their number very great?

Applying the generalization to railroads, it is obvious that other parties at interest in the money the railroads earn—the labor organizations, the taxing authorities, the shippers, the subsidy-seeking friends of rival forms of transport—are on the job night and day to see that they "get theirs" at the expense of railroad owners. The interest of these other parties is not "essentially temporary" and they do not cease to defend it when "risk becomes too great."

Not infrequently we receive plaintive letters from stockholders censuring railway managements for not showing greater zeal in the stockholders' behalf, and being quite indignant about how much better employees have fared than have railway owners. But to the extent that stock ownership is "essentially temporary" and is made up of individuals who care nothing for the problems of management and whose concern for their property begins and ends at the ticker tape—wherein is there anything strange in the fact that such owners fare badly?

The railroads are the victims of pressure groups, each of which brings political and other influence to bear to increase its share of railway earnings at the expense of any other parties at interest who cannot or will not defend their own. The managements do the best job they can to protect the owners' interest, but the managements have no political power and the pressure groups have. If a victim of a hold-up keeps quiet about his loss, can he consistently blame others if the police are not called?

Transverse Fissures

No subject has received more attention from maintenance officers during the last 25 years than transverse fissures in rails. After many years of apparent inactivity except for some individual, and largely unrelated, studies of their origin some definite progress has been made of late in tracing the inception of transverse fissures to shatter cracks produced in rails at the mills. The steel mills have been quick to recognize the importance of these discoveries and have added equipment designed to eliminate the formation of these cracks, thereby lending support to the hope that the number of transverse fissures will be greatly reduced if they are not entirely eliminated from the rails rolled from now on.

But these measures, even if successful, will solve only half the problem. The fact remains that there are and will continue to be for years millions of tons of rails in main tracks that were rolled before these new facilities for rail manufacture were available and that are still potential breeding grounds for fissures.

For these rails the problem is one of detection of fissures before they menace traffic. Here the detector car is a great aid, and every effort should be made to improve it and increase its effectiveness. Yet even with the most modern equipment for the detection of interior fissures, there is still another problem—that of determining the rate of development of fissures and the frequency with which the rails should be examined to detect all fissures before failures occur.

From time to time instances have come to light where fissure failures have occurred only a short time after the rail has been inspected and declared free of defects, with the natural inference that the detector equipment failed to function properly. As the number of these instances has increased of late, the feeling has gained ground that the rate of growth of these fissures has been under-estimated. This is a phase of the problem on which more information is needed. Mr. Gennet's discussion of the subject in last week's issue is a valuable stimulant to thought in this direction.

North Western Lays 6½ Miles of Transite Pipe

This road installs a 14-in. high-pressure line to bring water from Lake Michigan to its terminal yard at Proviso, Ill. Meets many obstacles

LAYING 1.3 miles of 14-in. pipe through a water-filled swamp, crossing 23 subway bridges, carrying the pipe line across a river on an independent structure, cutting the pipe trench between two high-speed main tracks for three miles and the construction of two pumping stations were some of the features of the installation of a 6½-mile water line which the Chicago & North Western has just completed between the western city limits of Chicago and its large freight terminal at Proviso, Ill., for the purpose of improving the quality of the water delivered to locomotives and to insure a dependable supply at this important switching and interchange point.

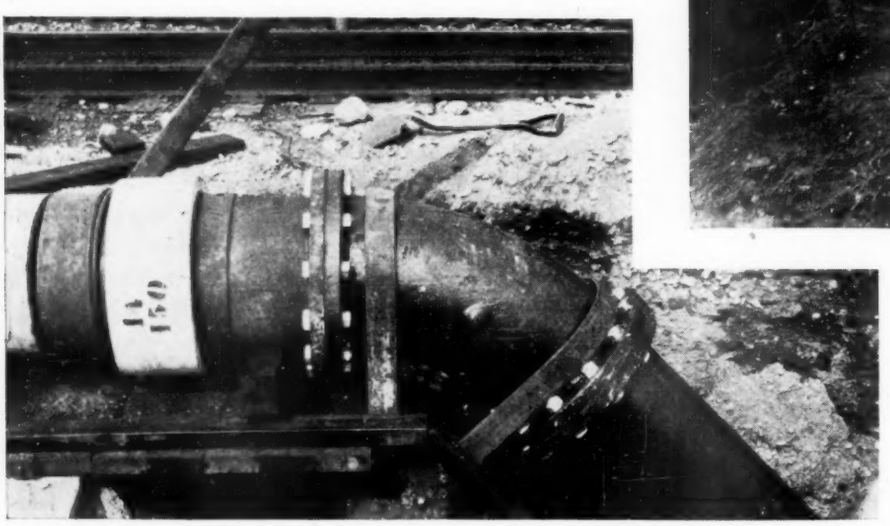
Another feature of particular interest is that this road has broken away from a practice that is as old as the railway for, although this line is designed for a maximum working pressure of 150 lb., instead of the cast-iron bell-and-spigot pipe with leaded joints usually employed in this service, the entire line is laid with transite pipe, the joints in which are formed with a transite sleeve and two rubber rings which are slipped over the ends of the abutting pipes.

Water Consumption Large

All Chicago & North Western inbound and outbound freight trains enter and leave Proviso yard. From this yard, all movements to and from local delivery and interchange points in the Chicago switching district are made by transfer trains. For this reason, all road locomotives lay over at Proviso, those in transfer service tie up here, while the switch engines used in the yard operation must be serviced. In addition to the road's own locomotives, from 20 to 40 locomotives from other roads, which are engaged in interchange movements, take water at Proviso daily. To care for this power, a large engine terminal and a water station delivering 2,000,000 gal. a day constitute important features of the yard facilities.

Starting as a small interchange yard in 1903, the facilities were expanded gradually as traffic increased in volume, and the demand for water increased correspondingly, until at the time the present terminal facilities were completed in 1930, the water consumption amounted to 2,000,000 gal. daily, which is about the present rate of consumption. The original water supply came from five





Above—A Section of Transite Pipe Ready for Lowering into Trench. Left—Cast Iron Elbow and Anchor. Adapter Ready for Coupling

wells 1,800 ft. deep, four of which were operated with air lifts. Later, two more wells were drilled to depths of 1,200 and 1,600 ft., respectively, and these, together with the fifth of the original wells, were operated with deep-well pumps.

With the opening of the first unit of the new terminal yard, an eighth well was drilled to a depth of 2,050 ft., and since that time three additional wells have been put down, making 11 in all. The water was never very satisfactory, however, because of its hardness since, depending on the well from which it came, it contained from 11 to 15 grains of calcium and magnesium salts and from 3 to 8 grains of sodium bicarbonate. Furthermore, with the heavy draft that was being made on the wells, production began to drop off and hardness to increase, in addition to which the cost of pumping was relatively high.

To supplement this failing supply, a small creek which flows through the yard was dredged and diverted into an 800 000 gal. reservoir into which the output of the wells



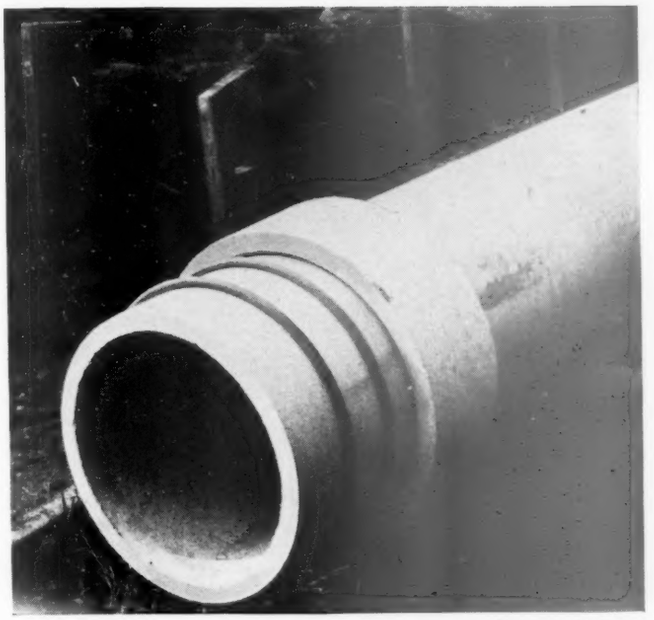
Adapter for Use with Cast Iron Fittings

was being discharged. This surface water contained from 2 to 6 grains of calcium and magnesium sulphate and from 16 to 25 grains of calcium and magnesium carbonates, depending on the season and the volume of flow. As a matter of fact, the hardness of the mixed raw water from the wells and creek has ranged from 12 to 35 grains per gal. For this reason, a treating plant was installed to soften the water and reduce the hardness to about 2 grains.

A New Supply Needed

These facts led to the consideration of other sources of supply. Investigation indicated that no better or more dependable supply was available for direct development by the railway. It was also found that only a limited supply could be obtained from the surrounding suburban towns, while such water as might be secured from these municipalities was little, if any, better for boiler purposes than that already in use.

This left Lake Michigan as the sole remaining source from which it would be possible to obtain a supply of water which would be satisfactory with respect to both quality and quantity. Obviously, however, the cost of taking the water directly from the lake and transporting it to Proviso would be so high as to be prohibitive, in addition to which were physical obstacles which would have made such a plan impracticable. Fortunately, however, the city of Chicago is empowered to sell water to users outside of its corporate limits. Accordingly, ar-



Coupling Consists of Transite Sleeve and Two Rubber Rings

rangements were made with the city for purchase at the city line of the water required and for the construction of a water line from the city limits to the point of delivery in the reservoir at Proviso.

This line consists of a 14-in. transite pipe with simplex couplings. Transite is a material made of portland cement and asbestos fibre, and the pipe is formed under sufficient pressure to produce a dense impermeable pipe wall having a surprisingly high tensile strength. The simplex coupling, consisting of a transite sleeve and two rubber rings, is sufficiently flexible to allow considerable movement in vibration without affecting the watertightness of the joint.

After leaving Chicago, the Chicago & North Western passes through the suburban towns of Oak Park, River Forest, Maywood and Bellwood before reaching Proviso, all of which re densely populated. For about three miles, to Thatcher avenue, River Forest, the tracks are elevated above the city streets, 19 of which are crossed on bridges. There are also pedestrian subways at Elmwood avenue in Oak Park, at Park Avenue in River Forest and for the accommodation of passengers at the Oak Park and River Forest suburban stations. When the tracks were elevated, six tracks were constructed, but since that time one track, the fourth from the south, has been removed and it was decided to lay the pipe line in the space formerly occupied by this track.

Many Obstructions Encountered

This arrangement avoided the necessity for crossing the numerous streets at grade as well as other complications arising from narrow right of way, particularly where the elevation embankment is confined between retaining walls, station facilities and other obstructions. On the other hand, it introduced a relatively serious problem, since the streets within the limits of the track elevation are crossed by means of shallow-floor steel bridges supported on gravity concrete abutments. This made it necessary to bring the pipe up at each subway bridge so that the crossing could be made above the bridge floor. Furthermore, the crown of the arches of three of the pedestrian tunnels were so high that the pipe had to be raised to pass over them.

From the end of the track elevation at Thatcher



Pump House at Vale



The Crossing of the Des Plaines River

avenue to the crossing of the Indiana Harbor Belt, which marks the eastern limit of Proviso yard, eight streets were crossed at grade. At all of these crossings there are underground public-utility and municipal facilities, such as electric conduits, gas lines and water mains. Fortunately, however, it was found possible in each case to raise or lower the water line sufficiently to miss these obstructions, so that it was not necessary to disturb them. In all cases, sewers were deep enough not to interfere with the water line.

In general, the pipe was laid with a minimum cover of 5 ft. to insure against the probability of freezing. As has been mentioned, however, it was necessary to bring the line above the ground level at the 19 subway bridges. It was also necessary to raise it above the 5-ft. minimum depth across three of the pedestrian subways. At each of these places the pipe was brought up with a 45 deg. bend and returned to a horizontal position across the obstruction with a similar bend. In the same way it was returned to the proper depth after passing over the structure.

Special Fittings

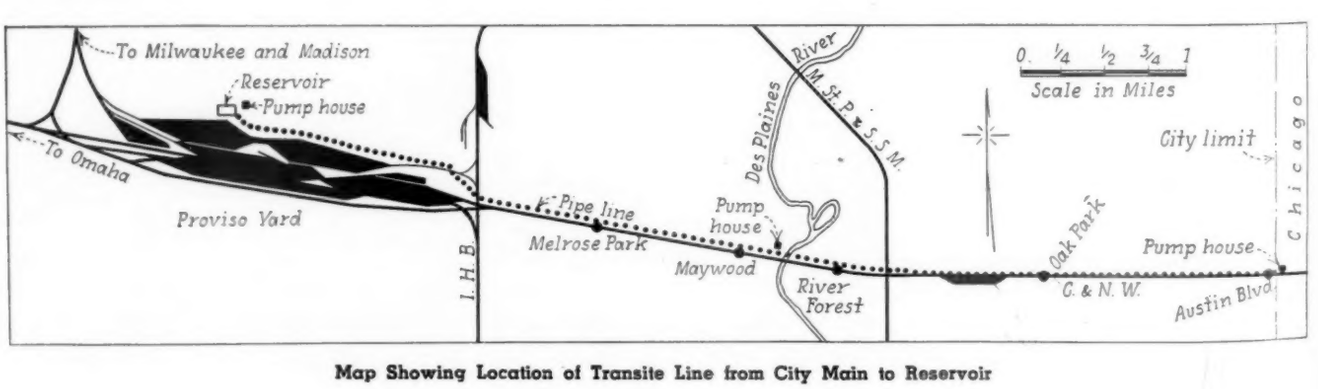
Transite pipe is built up by a continuous process on a revolving steel mandrel, for which reason only straight pipe is made. All special fittings such as elbows, bends, valves, etc., must, therefore, be of standard construction of either iron, steel or brass. For this line, the railway elected to use flanged fittings of cast iron. To do this it was necessary to use a specially designed cast-iron adapter to make the connection between the standard cast iron fittings and the transite pipe. One end of the adapter is flanged to fit the standard flange of the fittings, while the other end is made with the same outside diameter as that of the transite pipe, which has a thicker pipe wall than cast iron pipe. This end of the adapter, which was used with the simplex coupling, was fully machined with no out-of-round tolerance. Similar adapters were used at all valves and with the connections at the pump houses. They had an over-all length of 27⅜ in., the machined section being 18 in. long.

Any deviation from a straight line in a pipe carrying internal pressure exerts a thrust in the direction of the deviation, the magnitude of which depends on the size of the pipe, the pressure and the angle of divergence from the straight line. At 150-lb. internal pressure, the thrust at the 45-deg. bends where the line crosses the subways amounts to 22,000 lb. To counteract this at the point where the rise takes place, a concrete block in the form of a cradle, 3 ft. by 4 ft. in plan with a minimum depth of 2 ft., was placed under the bend and the pipe was securely anchored against vertical movement by loop rods, the hooked ends of which were inserted in the concrete when it was deposited.

Obviously, other means were necessary to counteract the thrust at the reverse bend at the end of the bridge. This was done by grouting two anchor rods having turnbuckles, in holes drilled in the rear of the abutments. Loop rods were placed next to the flanges of the bend and were riveted to gusset plates which were, in turn, attached to the anchor rods by means of bolts and clevises. Similar anchorage was necessary at the crossings of the pedestrian tunnels, except that in the absence of abutments the upper bends were anchored to specially constructed concrete blocks.

Crossing Under Tracks

After coming off the track elevation at Thatcher avenue, the line was diverted to the north side of the main tracks. It thus became necessary to cross under two tracks and, to shorten the crossing as much as prac-



Map Showing Location of Transite Line from City Main to Reservoir

ticable, horizontal bends and adapters, similar to those used for raising the pipe line above the bridge floors, were employed for the diversion. Concrete blocks of ample size were constructed to take the horizontal thrusts, which are of the same magnitude as the vertical thrusts at the bridges. It was also necessary to cross under nine sidings, but because traffic on these tracks is so much less than on the main tracks, it was not considered necessary to deviate from the normal alinement of the pipe line for the purpose of making these crossings.

To increase the flexibility of the pipe through these crossings half lengths were used, thus doubling the number of joints, within the limits of a zone extending 8½ ft. on either side fo the center line of the track, or tracks, to be crossed. These crossings required variously from 3 to 13 half lengths. As a further precaution against breakage, within this zone the water line was laid in corrugated iron culverts of larger diameter and was cushioned by filling the space between the pipe and the culvert with sand which was blown into place by means of a sand-blast nozzle.

Crossing the Des Plaines River

Between River Forest and Maywood it was necessary to cross the Des Plaines river, a stream subject to wide variations of flow. It was proposed at first to support the pipe line on the bridge carrying the tracks across the river. There were several objections to this, however, one being the constant vibration from passing trains in this dense-traffic section. Another proposal was to submerge the pipe, but this was also rejected because of possible scour and the difficulty of repairing a break during flood stages, which are sometimes long continued.

When the bridge across the river was built, the piers and abutments were extended on the north side far enough to accommodate two additional tracks, which have not yet been built. Since this portion of the substructure was available, the final decision was to make the crossing on an independent structure, this being considered more satisfactory than either of the alternate proposals, while by using the existing piers and abutments, the cost was slightly less than either. This structure, which is located 32 ft. from the nearest track, consists of two spans 40 ft. 6 in. long and three spans 55 ft. 4 in. long, the individual spans being made up of two 27-in., 91-lb., wide-flanged (10-in.) beams, spaced 3 ft. center to center.

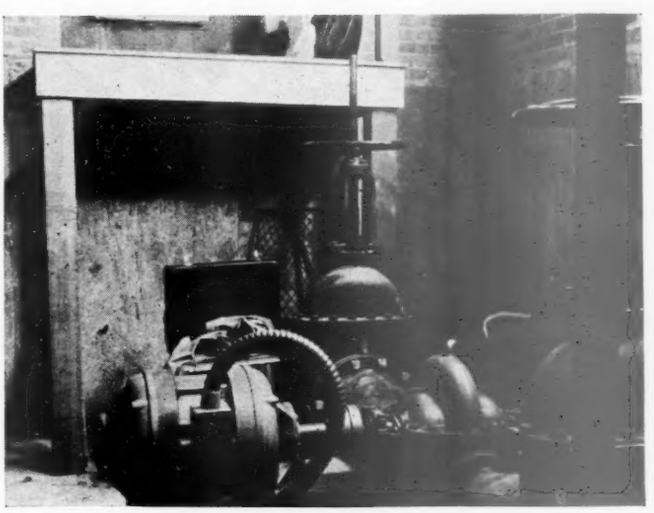
The pipe rests on wooden cradles 4 in. by 6 in. by 2 ft., which are set in 6 in., 13-lb. channels 2 ft. 10 in. long, which in turn are supported on the lower flanges of the I-beams forming the spans, to which they are bolted. These supports are placed 2 ft. 9 in. from the joints so that the spacing is alternately 5 ft. 6 in. and 7 ft. 6 in. The pipe is held in place by means of yoke bolts which pass through the cradles and the channels.

Protection Against Freezing

In bringing the pipe up to cross the bridges and tunnels on the elevation, and in crossing the river, the pipe was exposed and it became necessary, therefore, to protect it against freezing and the possibility of external damage. This was done, first, by covering the pipe with two 1-in. layers of hair felt, the joints in which were staggered, which were held in place by means of spiral wrappings of cord. This insulation was then covered with a double-coated roofing felt which was bound with copper wires on 6-in. centers. The whole assembly was then boxed in with a housing made of 1-in. d. and m. creosoted Douglas fir.

Again, in raising the pipe to cross the bridges and tunnels, high points were introduced, providing opportunity for air pockets to form, which would reduce the effective section of the pipe. To avoid this contingency, automatic air valves were inserted at the high points, the escape outlets of which were covered with metal shields. As these air-relief valves were placed on the exposed sections of the pipe line, they were protected from low temperatures by a housing which extended about 1 ft. 6 in. above the normal housing for the pipe line. The space between the housing and the shield was then packed with waterproof asbestos fibre.

In view of the many deviations from the general gradient and the alinement to cross over bridges and tunnels and under tracks, it was considered advisable to be able to sectionalize comparatively short runs of the line. For this reason, 12 gate valves were installed, one at each suburban station where the station forces would be able to close it quickly in case of trouble, and the remainder were spaced at substantially uniform intervals. On the track elevation the valves adjoin the riser bends at the bridges to reduce the number of special fittings. Elsewhere, they were connected with the transite pipe by means of the adapters which have been described.



Interior of Vale Pump House, Showing Motor, Pump and Gate Valve

Delivery of the water at Austin avenue is made at elevation 47 above Chicago city datum. From this point the pipe line rises to a maximum elevation of 66 and then drops to a minimum of 44 at the Des Plaines River crossing, with several intermediate summits and sags. From the river, the line rises again to elevation 66 at the point of delivery in the reservoir at Proviso. It will be seen therefore that the static head is comparatively low.

Two Pumping Stations Installed

However, the many abrupt bends which have been mentioned and the long run of pipe introduce considerable resistance to the flow of the water. To reduce the pressure which it otherwise would have been necessary to maintain at Austin avenue, and thus reduce the demand charge for electric power, it was decided to install two pumping stations, one at Austin avenue and another immediately west of the Des Plaines river, using automatically controlled, electrically driven centrifugal pumps in each station.

Water is taken at Austin avenue from a 24-in. city

main, through two 8-in. service connections, each of which is metered. This main is part of a loop system and is fed from both the north and south. To insure against interruption to the delivery, a gate valve was installed between the two service connections so that if the main is shut down on either side of the pumping station the gate valve can be closed and the delivery continued through the other connection.

Delivery of the water by the city and the operation of the pumps is entirely automatic. The city required a complete break between its water system and that of the railway. For this reason, the discharge from the 8-in. service line is made at 15 lb., the pressure in the city main, into an open 3,000-gal. tank which is located in the pump house immediately adjacent to the pump, and is controlled by an automatic float valve. As the pump starts, the water in the tank is lowered and the valve opens. If the pump stops, the tank fills and the valve closes.

How the System Works

To understand the sequence of events through which the pumps are started and stopped, it will be necessary to begin at the storage reservoir at Proviso. In passing, however, it should be stated that the equipment is identical in the two pump houses, except that at Austin avenue the pump suction extends into the delivery tank, while at Vale, the Des Plaines River station, the suction is connected directly with the 14-in. pipe line, this station acting merely as a booster.

An electrically operated float valve has been inserted in the pipe line near the point of delivery at the Proviso reservoir. In the pump house at Vale, there is a pressure tank, filled partly with water and partly with air, which is connected at the bottom into the water line a short distance from the discharge end of the pump. From the upper side of the tank an air line leads to a mercoid switch.

When the reservoir is filled the float valve closes and the pressure begins to build up in the pipe line west of Vale, and is transmitted into the pressure tank through the 2-in. water connection. When it has reached a predetermined magnitude, the pressure in the air line trips the mercoid switch, cutting off the current and stopping the pump. Pressure then begins to build up immediately between Vale and Austin avenue, and when sufficiently high the pump at the latter station is stopped in the same way. The delivery tank then fills and as the float valve closes delivery from the city ceases. Check valves just ahead of the pumps retain this pressure and assure that the pumps will remain out of operation until enough water has been taken from the reservoir at Proviso to reverse the sequence.

As withdrawal lowers the water in the reservoir at Proviso the float valve opens. This releases the pressure in the pipe line and in the control tank at Vale and the mercoid switch cuts in, closing the circuit which starts the pump. The suction from this pump reduces the pressure at Austin avenue and starts the pump at that station. The water in the delivery tank is lowered and the float valve opens, starting delivery from the city, and the entire system is again in operation.

It is not intended that the stopping and the starting of the pumps shall occur frequently, but that they shall be in continuous operation, so far as practicable. To this end, 6-in. pumps with a rated capacity of 1,440 gal. per min., or slightly more than 2,000,000 gal. per day, were selected. As the water consumption at Proviso averages 2,000,000 gal. per day and the storage in the reservoir provides a margin of 800,000 gal. against fluctuations created by peak demands for water, it is expected that the pumps will remain in practically continuous operation, thus reducing the power demand load.

Cutting the Pipe Trench

Two trenching machines and a crawler-mounted dragline were employed for preparing the trench to receive the pipe. The dragline was used across the 1.3-mile stretch of swamp between the reservoir at Proviso and the Indiana Harbor Belt crossing. Considerable difficulty was experienced in getting across the swamp, since it was filled with water most of the time the work was in progress. Little opportunity was afforded for this water to drain away because of the frequent and sometimes heavy rains that occurred during this period. This made it necessary to throw up a levee to prevent surface flow into the trench and to operate pumps to dispose of the seepage. These requirements combined to slow down the work noticeably. Furthermore, the bottom of the trench heaved in several places before the pipe could be covered, making it necessary to take it up and relay it.

One of the trenching machines was started at the Indiana Harbor Belt crossing, approximately at the edge of the swamp, and worked east, while the other worked west from Austin avenue. No special features were involved in this phase of the work, except the frequent moves that were necessary to get the trenching machine across the subway bridges; and the fact that on the track elevation east of Thatcher avenue, the work was done between two main tracks and considerable care had to be exercised because of the frequent train movements. Again, in this section the trench was through filled ground and had, therefore, to be watched closely to avoid caving. Where the straight crossings of sidings were made the tracks were taken up to permit uninterrupted passage of the trenching machine.

The pipe was laid as the trench was completed and, in general, the back-filling was done at once. Across the swamp and east to Thatcher avenue the back-filling was done with a crawler-mounted tractor equipped with a bulldozer. On the track elevation a light dragline on crawler mounting was employed in this service.

How the Pipe Was Laid

Several unique features were involved in the laying of the pipe. It has been mentioned that the joints are formed with a simplex coupling which consists of a transite sleeve and two rubber rings. Before lowering a section of pipe into the trench, this sleeve and the two rings were slipped over the end of the pipe which was to be farthest from the pipe already laid. The section with this rough assembly, which weighed approximately 750 lb., was then rolled onto skids over the center of the trench and lowered by means of a tripod derrick and a differential chain block.

In the trench the pipe was lined into the assembly position, special care being exercised to insure that the circumferences of the two adjacent pipes were flush, and that there was the proper gap, about ⅛ to ¼ in., between the adjacent pipe ends. The rubber rings were then brought carefully into correct position, one being as close to the end of the pipe as practical without slipping off, while the other was back a distance equal to the length of the coupling, this distance being carefully checked with a gage provided for this purpose. The sleeve was then moved up until it was immediately behind the second rubber. The pipes on both sides of the

(*Continued on page 917*)

New York Central Consolidates Handling of Stationery

Establishes one storehouse for all office supplies—Reduces stock and improves purchasing and distribution



Views From Above and Through the Middle

AS a result of rearrangements in the supply department during the past year and concessions by an accommodating mechanical department in the form of a well-built and commodious shop once used for painting coaches, the New York Central now has at Cleveland, Ohio, one of the largest and best equipped storehouses in the country for handling stationery. The new store is among the improvements in stationery practice, which include the extensive standardization of forms, and its opening marks another step in the gradual amalgamation of the several railroads forming the New York Central system. The consolidated store replaces stores previously maintained at Beech Grove, Ind., on the Big Four; at Detroit, Mich., on the Michigan Central; at Cleveland, on the New York Central, line west; and at Rensselaer, N. Y., on the New York Central, line east. It establishes one storehouse for all stationery subject to general distribution, and also consolidates multigraphing and all repair work on typewriters and business machines performed by company forces.

Spacious Quarters

The building in which the stationery is now handled is at Collinwood, Ohio, a part of Cleveland, and within a stone's throw of the general storehouse of the region. It is a brick and steel structure 182 ft. wide and 274 ft. long, which was built and used for large scale coach painting operations until 1930 when this work was consolidated elsewhere. At one end, separated by a brick wall, is a shop which is still used for upholstering. Here the stationery office, multigraphing and typewriter shops are also located. The remainder of the building is one large room, unbroken except by widely-spaced roof columns. A canopy roof, supported on open-type steel trusses, rises from a minimum height of 15 ft. at the side walls to 30 ft. in the center, and gives the room a lofty appearance. The interior is flooded with light from almost continuous panels of factory-type steel sash 10 ft. high on all sides and by skylights in the roof. The building is also electric lighted and is heated from cast iron radiators attached to the walls and interior columns. It was remodeled for stationery storekeeping by removing all but two tracks, by laying a concrete floor, by building a car-loading platform and installing shelving and material-handling equipment.

15,000 Ft. of Steel Shelving

In the building are 40 steel double cases, each 3 ft. wide, 27 ft. long and 7 ft. 3 in. high, without ledges. The new cases have open ends and all the cases are the daylight type, i.e., without backs. They furnish approximately 15,500 linear feet of shelves. This does not

include 75 ft. of steel shipping counters. Supplementing this equipment are 220 portable platforms, 30 in. wide and 42 in. long and 6 in. high, for storing and handling heavy packages. About 100 of these trays were made at the reclamation plant from old car steel. Other equipment consists of 15 special light-weight carts, with rubber-tired wheels, for use in filling orders, 16 low 4-wheel platform trailers and 2 manually-operated jack-lift trucks for moving the portable platforms. Powered lift trucks and highway trucks, or other equipment, are obtained from the general store when needed.

The storage space is laid out transversely in four sections. In the first section are steel cases. In the second section, stationery is stored on the floor or on portable platforms. Steel cases fill the next section, and this is followed by another open floor space. The steel cases are arranged in four rows, with a four-foot aisle between cases and an eight-foot aisle between rows; and the same aisle arrangement is obtained in the other sections by painting white lines on the floor. The shipping counters are placed at right angles to the steel cases, in a line parallel to the side wall, and the space next to the side wall is marked off for trailers, which are parked at right angles to the wall. The aisle between the trailers and shipping counters, and the aisles between the shipping counters and the shelves, are wide and open at both ends, as are all the aisles in between the shelves. The two tracks lie crosswise of the building at the forward end and hold three cars each, and the elevated platform between them is 24 ft. wide and 110 ft. long, with an incline 8 ft. wide and 40 ft. long at one end.

Ship by Freight

The plant operates on an inventory of approximately $65,000 (it was $79,000), and monthly disbursements of $30,000, and the stock consists of approximately 3,000 items of stationery. This stationery is all received in "straight" cars from the freight house, with the exception of truck deliveries made by firms in Cleveland; and it is distributed in two ways. Most of it is loaded in cars and switched to the l.c.l. freight house, 8 miles distant, where the lading is placed in "transfer" cars for shipments to other freight houses on scheduled sailing dates. Other shipments, especially those for storehouses and shop offices, are placed in cars of miscellaneous materials loaded at the platform of the general storehouse. Miscellaneous and rush shipments are made by passenger train.

Stationery was once distributed in supply cars, accompanied by a stores attendant, but shipping stationery in supply cars has been discontinued. Freight agents are the largest consumers of stationery, and supply cars were never switched into freight house platforms. The boxes and cartons in which stationery is received are used for packing outgoing shipments if they are in serviceable condition; otherwise, the shipments are packed in new paper cartons which are purchased in three sizes for this purpose. This has reduced loss and damage and saves time.

The work is in charge of a general stationery storekeeper, with a force of 29 employees, consisting of a general foreman, 16 floormen, 2 multigraphers, 6 men on typewriter repairs and 4 office employees. This force is under the immediate supervision of the general storekeeper, line west, and is thus a part of the operating department of the railroad and assures co-operation. It also receives general direction from the general supervisor of stores, who reports to the vice-president in charge of purchases and stores.

The general stationery storekeeper receives all requisitions for office stationery supplies for the New York Central system, with the principal exception of tariffs, tickets and postage, and with the exception of requisitions originating on the Boston & Albany and the Pittsburgh & Lake Erie, Indiana Harbor Belt and Chicago Junction; and a plan of administration is followed to obtain the best results in purchasing as well as in storekeeping and supply service.



Shipping Floor, Packing Counters and Center Aisle

Standards Save $277,000

As rapidly as possible, every form in use on the several railroad companies of the New York Central system has been subjected to study by a standardization committee to eliminate all unnecessary forms, to develop interchangeability and to reduce the cost of production. Of 11,720 forms so considered, up to May 1, 1936, 9,390

were standardized and 2,330 were discarded, with a total estimated saving of $277,819. Approximately $212,000 of this represented economies in purchasing the 9,390 forms standardized, and $34,000 represented additional savings in purchasing 249 forms under contracts, while $27,100 represented savings resulting from the elimination of 1,917 forms and $5,000 represented savings in postage resulting from the adoption of special envelopes.

Approximately 5,000 consignees order supplies from the stationery store. Economy and expedition in handling requisitions and filling orders is promoted by numbering each form with letters which indicate the department using the form, and then numbering all the forms in each group serially. Makers of requisitions are instructed by circular to use these numbers in writing requisitions, to list their requirements in alphabetical and numerical order, to use the specified unit of measurement, and to show on all requisitions the average monthly consumption of each item, the amount due on previous orders and the quantity in stock. Separate requisitions are required for rubber stamps, for repairs to typewriters and other office appliances, for business cards, letterheads and printed forms peculiar to one office and for stationery used in joint operations.

The instructions include a printed schedule of the prescribed day of each month when requisitions are due in the stationery store from different classes of requisition makers. Requisitions from superintendents of shops and other division officers are due on the fifth of each month; departmental accountants, station masters, etc., on the eighth of each month; freight agents, yard masters and similar forces in certain cities, on the twelfth of the month; and similar officers in other prescribed cities, on the fifteenth, on the eighteenth, etc. The general stationery storekeeper, in turn, has printed schedules showing the date when cars are loaded at local freight houses and general stores for the various destinations.

The scheduling of requisitions and the harmonizing of work with sailing dates of transfer cars spreads the work, and it also reduces the labor and time in the storehouse. Requisitions are received in duplicate by the store, and when requisitions are filled, one copy is returned to the maker as a shipping notice. The bills of lading are prepared for the freight agent. Portions of requisitions which cannot be filled are back-ordered and held until the missing stationery is replenished.

A daily report is prepared, showing the number of requisitions on hand at the close of the previous day, the number received, the number filled and the remainder on hand, together with similar information about back-orders. During the month of April, stationery was supplied from stock at an operating cost of $1.49 per requisition, including supervision and office labor as well as floor labor, while the cost for warehouse labor alone was $0.82 per requisition. There were 1,965 requisitions filled out of stock in April, as compared with 2,197 in August, 1936. The number of items handled per hour of work was 42.5 as compared with 34.8 in September of the previous year. Telephone calls made to trace shipments and order items not described in requisitions have been reduced from 18.9 per day to 6.2 per day, and telegraph messages for the same purpose have been reduced from 12.4 per day to 4.1 per day; while the number of back-orders representing shortages have been reduced from 1,300, when the plant was opened, to 157 at the present time. Further details on the progressive improvement in the stationery store operation are shown in a table.

Whenever practicable, contracts are made with printers for one year's prescribed stationery forms at one time. These contracts do not permit printers to deliver



Multigraphing and Typewriter Shops



Elevated Platform Inside the Building for Car Loading

Storekeeping Results

	Requisitions per day	Items	Items per requisition	Items per working hour
September, 1936	86.7	30,154	15.1	34.8
October, 1936	87.5	46,297	19.6	34.7
November, 1936	98.9	46,102	19.4	37.3
December, 1936	82.4	41,016	19.1	32.7
January, 1937	88.6	41,322	18.7	36.6
February, 1937	86.9	40,160	20.1	40.3
March, 1937	81.3	41,498	18.9	38.3
April, 1937	75.6	34,887	17.8	42.5

the entire order at once, but only as called for. When the stationery store receives a copy of an order from the purchasing department, it commences a record in a looseleaf binder, and requirements are thenceforth obtained by issuing a release order on the printer and furnishing a copy to the purchasing department. In this way, purchases are made at lowest prices without inflating inventories. Printers are requested to keep 300,000 forms on hand to fill release orders. At present, approximately 3½ of every 10 forms handled by the stationery store, and 80 per cent of their money value, are purchased in this manner.

Increase Direct Shipments

The new stationery store is not operated without considerable shipping of stationery direct from printer to user. Instead, the practice is encouraged whenever good judgment recommends it. Orders for stationery not common to stock are usually placed on printers for direct shipment, but the practice also extends to standard forms which are being printed subject to release orders, providing the quantity to be delivered is large. Whenever this can be done without increasing purchasing expense, it saves rehandling by company forces. The storekeeping procedure in such cases is to send a release order to the printer and a copy to the consignee and the purchasing department. Accounting for these and all other shipments of stationery to consumers is performed by the accounting department which charges operating expenses with the cost of stationery as soon as it is issued.

Multigraphing

The multigraphing in the stationery store is confined to work previously developed at points where stationery stores were located. The equipment consists of 5 machines and about 500 plates, of which about 100 are in common use. The machines print about 2,000,000 pieces of stationery a month and are employed chiefly in printing car cards and circular letters for the passenger traffic department. Before undertaking job printing, studies are made to assure the company that the work can be performed more cheaply or more conveniently with its own equipment than by commercial printers.

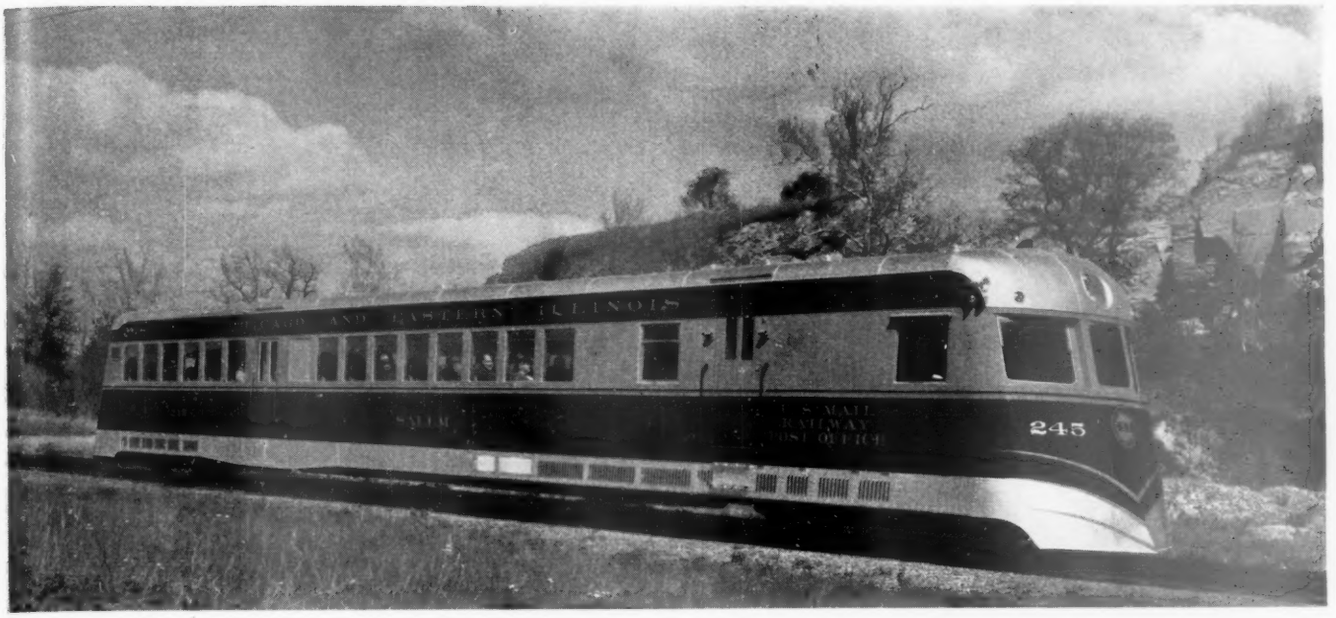
165 Typewriters Per Month

Consolidation of the typewriter repairs on the railroad has produced a six-man operation at Cleveland where typewriters, comptometers, adding machines and similar office equipment are overhauled by skilled craftsmen at the present rate of 165 per month. This shop occupies space once used as an office and is both well lighted and free from noise. Broad work benches, specially built and equipped with tools for this type of work, have been installed, and all typewriters are stored on steel racks while awaiting overhauling and shipment. Requisitions for typewriter repairing show the model, serial numbers and sizes of machines to be repaired, and are usually shipped after stationery store forwards an exchange typewriter and a suitable container. Machines which can be more economically serviced or repaired by commercial firms are reported in other requisitions, and a continuous record is kept of all repair work performed. Monthly statements are also prepared, showing the detailed cost of each machine and different classes of work, as well as the number of machines of each kind which are repaired. These statements show that 129 typewriters and 165 machines of all kinds were overhauled in this shop during the month of April.

Several details remain unfinished in the new storehouse, but the plant has now been in use almost a year with highly satisfactory results. The consolidation has caused some increases in haul on shipments from printers, but these have been only slight in view of the fact that cross-hauling was also unavoidable in operating the four separate stores. It is estimated that savings in payroll and carrying charges of inventory resulting from the new store operation have already exceeded the cost of the labor and material required to equip the new store. The four storehouses used previously for stationery were all in demand for other material or other needs, and the consolidation of the work at Cleveland has proved beneficial indirectly by aiding in the better control of stationery and its more economical purchase.



Side View of Steel Cases and Fleet of Service Carts



One of the C. & E. I. Rail Trains Recently Placed in Service

Two Motor Cars for C. & E. I.

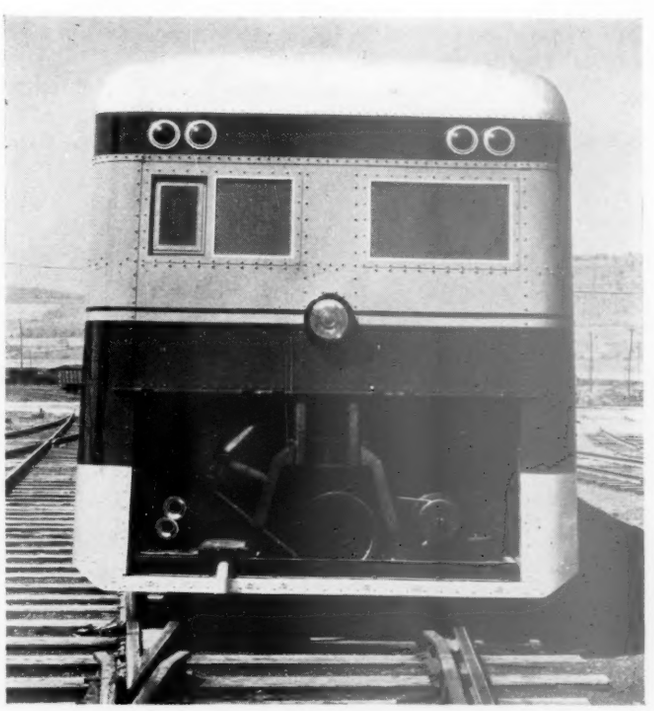
A.C.F. streamline coach for operation on 242-mile run carries 61 passengers, with baggage and mail—Driven by a 200-hp. gasoline motor with mechanical transmission

ON MAY 20, the Chicago & Eastern Illinois placed in operation two streamline air-conditioned rail motor cars, designed and built by American Car and Foundry Company at its Berwick, Pa., plant. These two rail motor coach trains, named "Egyptian Zipper," will replace two steam trains and will operate between Danville and Cypress, Ill., a distance of 242 miles. The cars weigh 62,500 lb. serviced and ready for operation and are arranged to carry a revenue load of 61 passengers and 5,000 lb. of mail, bringing the loaded weight to 76,950 lb., 28 per cent of which is on the driving axle.

Each car is powered by one Hall-Scott Model 190 horizontal engine developing 200 hp., the power being transmitted to two driving wheels by means of a mechanical transmission, propeller shaft and axle gears.

The overall length of the cars is 75 ft. 7¼ in. and the height from rail to top of roof is 10 ft. 7 in.; width of side posts 9 ft., and inside height from floor to ceiling, 7 ft. 2 in. The interior is divided into four compartments: First, at the front end of the car is the operator's compartment; next, a 16-ft. mail compartment, followed by two passenger compartments which are separated by the center entrance vestibule with entrance doors on each side of the car.

The cars are of streamline design with a well rounded front containing three large windows fitted with shatterproof plate glass. The rear end of the car is sloping and contains two windows and doors which permit easy



A Gasoline-Engine-Driven Air Conditioning Unit is Housed in a Compartment at the Rear End of the Car

access to the air-conditioning equipment which is mounted in the extreme rear end of the car.

The streamline exterior is unusually attractive in its color scheme of silver, scarlet red, indigo blue and gold bronze with stripes of black.

High-strength-alloy steel has been used where necessary in the construction of the car to reduce sections without sacrificing strength. The basic structural materials are steel with aluminum sheathing. Underframe structural steel members are arranged for single-car operation. The underframe is of rigid steel construction, welded and riveted together. The side sills are of rolled-steel Z-bars and angles, the bumper at each end is of rolled steel channel properly braced, and the front end of the car is equipped with a suitable pilot, sheathed outside with sheet steel and shaped to blend with the car-body structure. The body framing is of steel construction, except side sheathing, skirts, and letter panels, which are of aluminum. The platform space is provided, at the side entrance, with a two-leaf folding door on each side of the car, the doors folding in. There is an A.A.R. standard pocket coupler at each end of the car with coupler head removable, since it is only to be used in case of emergency. Coupler pockets are concealed by flush type covers and are accessible through openings in the sheathing.

One saloon is provided for each passenger compartment and is equipped with flush hoppers, partitions are of solid steel and finished like the interior of the passenger compartments. One sanitary water cooler having separate compartments for ice and water is provided at each saloon. A liberal capacity water supply tank is mounted beneath the car and water is delivered by air pressure. The tank is well insulated to prevent freezing.

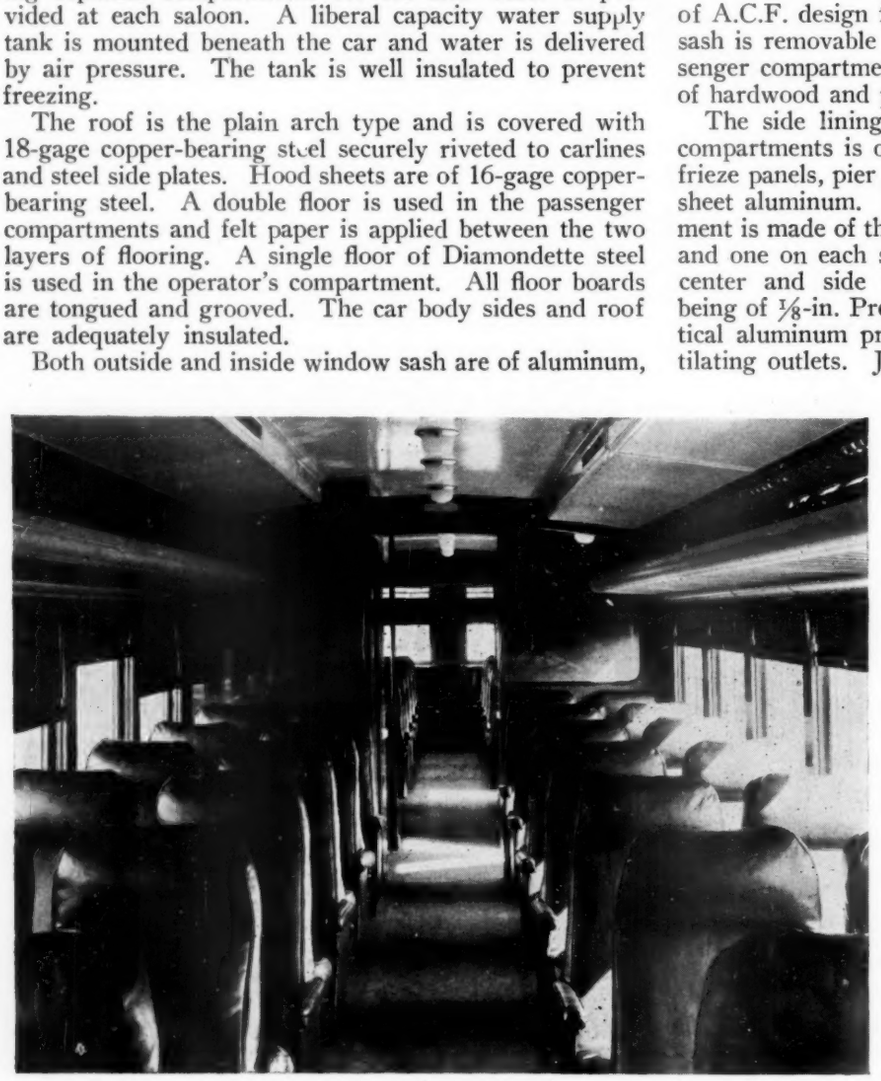
The roof is the plain arch type and is covered with 18-gage copper-bearing steel securely riveted to carlines and steel side plates. Hood sheets are of 16-gage copper-bearing steel. A double floor is used in the passenger compartments and felt paper is applied between the two layers of flooring. A single floor of Diamondette steel is used in the operator's compartment. All floor boards are tongued and grooved. The car body sides and roof are adequately insulated.

Both outside and inside window sash are of aluminum, of A.C.F. design for air-conditioned cars, and the inside sash is removable for cleaning and glazing. In the passenger compartment, doors and windowsill cappings are of hardwood and painted.



Operator's Compartment

The side lining below the window in the passenger compartments is of ⅛ in. Masonite Presdwood and the frieze panels, pier panels, and upper corner panels are of sheet aluminum. Headlining in the passenger compartment is made of three parallel divisions, one in the center and one on each side with a vertical offset between the center and side sheets, the center and side sections being of ⅛-in. Presdwood, and the offset is filled by vertical aluminum pressing with grilled openings for ventilating outlets. Joints are covered with metal molding.



Interior of the Passenger Space, Looking Toward Rear of Car

Trimmings in passenger compartments such as door locks and other hardware, are of chrome-plated bronze. A layer of felt paper is cemented to the top of the floor of the passenger compartments, saloons and entrance platform and Armstrong embossed linoleum is cemented to the paper in the aisle of passenger compartments, saloons and platform, while the Armstrong green jaspe linoleum is applied on each side of the aisle under the seats.

Aerating type ventilators are arranged on the roof in passenger compartments, each ventilator opening into continuous ducts formed by a vertical offset between the ceiling and headlining on each side of the car. Adjustable shutters are provided at each ventilator and are operated by key. Both passenger compartments are equipped with A.C.F. two-passenger transverse seats, 40 in. in overall width, with individual air and spring cushions, soft back and headrest tapered for extra aisle room. Seats are spaced on 2-ft. 9-in. centers. Continuous parcel racks are located on the frieze panels at each side of the car in both passenger compartments. The cars are heated by an A.C.F. double-coil, coal-burning hot water heater located at the rear left side of the operator's compartment and radiation by fin tubing in passenger and mail compartments.

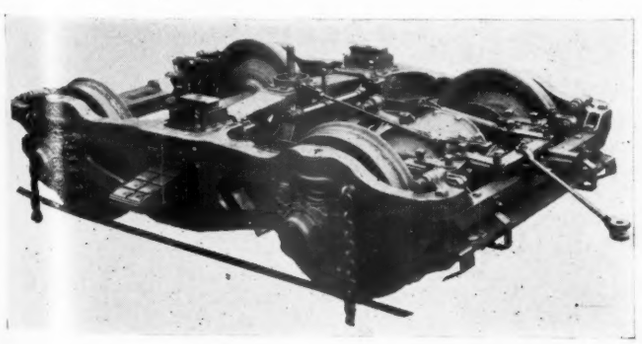
The mail compartment is equipped with R.M.S. standard lightweight fittings and equipment.

The passenger compartments are illuminated by 18 electric fixtures, nine in each compartment arranged along the centerline of the car.

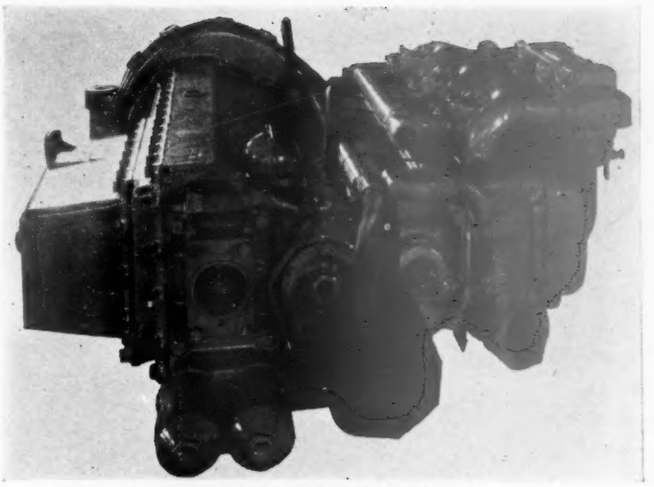
An A.C.F. upper air-conditioning unit of five tons capacity is arranged for cooling only, including a double-shaft-extension motor, with two double-width double-inlet blower wheels and arranged for air delivery to the side ducts. A Freon compressor and condenser unit is driven through a V-belt by a water-cooled gasoline engine with its necessary accessories. The complete unit is mounted at the rear end of the car beneath the five-passenger transverse seat. The air-cooling system is entirely automatic.

The complete power plant for these cars is mounted entirely beneath the floor which means all of the floor space within the car, with the exception of the operator's cab, is available for revenue load. The engine is a six-cylinder, horizontal Hall-Scott Model 190, developing 200 hp. at 2,000 r.p.m., and operates on gasoline. The engine, clutch, and its transmission, all of which form the power plant, are mounted on the car underframe by rubber bushings having no metal-to-metal contacts. The power plant is mounted directly behind the lead or power truck. The drive shafting extends forward to a midship bearing on line with the center sill. The propeller shaft, with its universal joints, passes through an opening in the truck bolster to the drive axle at the front end of the power truck.

The clutch is a large-diameter heavy-duty single-plate



The Mechanical-Drive Power Truck



The 200-Hp. Hall-Scott Engine

type. The transmission has four speeds and reverse with gears of helical type in constant mesh. The driving axle is provided with two free-running spiral bevel gears which mesh with a common pinion. To accomplish the axle engagement for operation in either forward or reverse direction, one or the other of the two bevel gears may be locked to the driving axle by means of a large sliding jaw clutch which is attached to the axle by means of a spline. This jaw clutch is controlled from the operator's seat and the shift is made while the car is stationary. This arrangement permits full-speed operation in either direction. The transmission reverse feature is intended for backward operations of short duration at slow speed.

Two fin-and-tube-type radiators are mounted immediately at the rear of the engine and are cooled by means of a fan driven by the main engine. The radiators are equipped with automatic shutters operated pneumatically, which are controlled by a thermostat. The exhaust pipe is carried to the extreme rear of the car. Fuel is carried in two tanks, having a capacity of 50 gallons each. A 12-volt electric generator of ample capacity for charging the storage battery is directly driven by a V-belt from the engine.

Trucks and Brake Equipment

The car body is mounted on an A.C.F. Model 96-AM-2 drive truck at the front end and a Model 96-AT-2 trail truck at the rear end. Both trucks have a wheel base of 6 ft. and all wheels are of rolled steel and 30 in. in diameter. Truck side frames are steel castings with integral pedestals. Brake rigging is outside-hung on the driving truck and inside on the trailing truck. The brake cylinder for the driving truck is mounted on the car body, while that for the trailing truck is mounted on the truck. All journals are equipped with Timken roller bearings and the journal boxes are guided in the pedestal by shear type rubber units, thereby, eliminating much of the noise otherwise caused by the motion of the boxes in the pedestals. The air-brake equipment is the Westinghouse semi-automatic type with mechanically driven air compressor having an unloading device. The hand-operated brake valve is of the self-lapping type and includes the deadman feature with an auxiliary foot relief pedal.

On a test run, the gasoline consumption on these cars was from 4½ to 5½ miles per gallon, depending on operating conditions such as grade, number of stops, etc. The cars are capable of speeds from 60 to 66 m.p.h.

Will There Be a Car Shortage?

Operating-transportation division, at Chicago meeting, considers problems of expected heavy loadings

MARKED by a record attendance of nearly 300 members, the Operating-Transportation division of the Association of American Railroads held its annual meeting at the Stevens Hotel in Chicago on May 19 and 20. Following a statement of the present car situation and the expectations for the peak period by J. M. Symes, vice-president of the operations and maintenance department of the A. A. R., much of the work of the division concerned itself with the problem of avoiding a car shortage in 1937. An informative summary of the average per diem plan was also presented, and President Sargent of the Chicago & North Western spoke on the economics of rate making.

Mr. Symes cited the usually accurate predictions of the Car Service Division and pointed out that, this fall, loadings of over 900,000 cars per week for nine consecutive weeks, with a peak week of 960,000 cars, are expected. Last year, the peak was 827,000 cars. Mr. Symes outlined the needs as to both box and open-top cars, explaining that the open-top situation was not so serious, as it is expected that there will be 50,000 more open-top cars in service this fall than were available last year.

Car Handling Efficiency Necessary

"It looks at this time," Mr. Symes said, "as though there will be about 95,000 more serviceable cars available than a year ago. This is approximately a nine per cent gain. Can a nine per cent increase in cars provide for the loading of an expected 15 per cent increase in traffic? It can be done by efficiency in car handling, but only by the utmost co-operation between railroads, and with the Car Service Division."

Mr. Symes outlined some of the steps that have been taken to increase the availability of cars and the efficiency of car handling; such as speeding up repair programs, asking car builders for prompt delivery of new equipment on order, minimum holding of cars at ports, minimum use of high-grade cars for company material, soliciting the co-operation of operating departments, and strict observance of the car service rules.

Concerned with the same subject in some of its other aspects were a series of discussions. One of these, on the box car situation and the program for meeting the heavy demand expected, was led by L. M. Betts, manager, closed car section, Car Service Division, A. A. R. The 50-ft. car and its problems were discussed under the leadership of W. C. Kendall, chairman, Car Service Division, A. A. R., while car service rules observance was considered from a regional standpoint, with transportation officers from each region presenting their own ideas and outlining their own problems, under the leadership of M. J. Gormley, executive assistant to the president, A. A. R. The importance of commodity inspection and carding of cars was also considered.

The Speakers

F. W. Sargent, president of the Chicago & North Western, suggested that the present system of economics of rate making may be wrong. He pointed out that, despite the large reductions in operating expenses through increased efficiency, the railways have received little or no benefit from their initiative and hard work, the savings thus effected having been passed on to the shippers and receivers in the form of reduced rates. The handling of a ton of freight for one mile for less than one cent is a measure of efficiency unequalled in any industry, Mr. Sargent said.

He pointed out that the history of rates has been that they are reduced in times of prosperity and increased in times of depression and suggested that this was hardly economic practice. In dull times the high rates tend to drive what little business there is to competing forms of transportation. During prosperity, when everyone else is raising prices and when the costs of providing railway service are materially increased, the railways should also be permitted to raise their rates in accordance with the practice of every other industry, to meet these increased costs. He pointed out that an increase in rates of only a few mills per ton mile, which could well be borne by industry, would save the railways from bankruptcy and would not be out of line with the trend of prices in other industries.

Other speakers included L. W. Wallace, director, equipment research, A. A. R., who told of the practical application of research, W. R. Triem, general superintendent telegraph, Pennsylvania, a member of the train rules committee, who spoke on suggested changes in train rules, and A. F. McSweeney, superintendent freight transportation, Pennsylvania, who outlined methods for keeping the operating department employees informed of instructions concerning the handling of equipment.

The Average Per Diem Plan

A graphic record of railroad performance under the average per diem plan was presented by W. C. Kendall, chairman, Car Service Division, A. A. R. A dozen charts were exhibited indicating the trends since the plan has been in effect, together with comparisions with former operations prior to the installation of the plan in the spring of 1935.

These charts included data on the relationship of general business activity to carloadings, the number of cars owned, divided as between plain box cars and other types, the percentage of cars awaiting repairs to the total ownership, the number of serviceable cars owned, the percentage of home cars on line, the percentage of cars on line to ownership, the percentage of empty to total mileage, the net tons per train, and the percentage of empty mileage in the direction of traffic.

Mr. Kendall stated that the graph representing the percentage of home cars on line represented the crux of the complaints directed against the average per diem plan. This graph shows a marked and steady decline from about 78 per cent in January, 1934, to less than 52 per cent at present. He explained, however, that this wandering of cars away from the owning line could not be attributed entirely to the average per diem plan, and

quoted figures to prove that such dislocation of equipment invariably takes place during periods of improving business.

In any event, he claimed, any disadvantages in this respect are much more than offset by the excellent showing portrayed in the other charts as to the reduction in empty mileage, particularly in the direction of traffic. In the final analysis, Mr. Kendall pointed out, the test of any such plan is found in the savings it produces, and, according to a table presented by Mr. Kendall, which is included in this article, such savings amounted to more than 34 million dollars in 1935 and 1936.

Transportation Savings in 1935 and 1936, Compared with 1934, Showing Economies Resulting from Average Per Diem Plan

TOTAL UNITED STATES

Item	Year 1934	Year 1935	Year 1936
Loaded freight car miles.	11,593,866,777	12,014,521,395	13,941,810,000
Ratio to 1934		103.63	120.25
Empty freight car miles.	7,457,130,029	7,285,304,293	8,159,201,000
At 1934 ratio		7,727,823,850	8,967,198,861
Savings in empty mileage		442,519,557	807,997,861
Total freight car miles (incl. caboose)	19,488,248,971	19,746,754,391	22,101,011,000
Gross ton miles (excl. loco. and tender)	743,554,482,000	766,872,678,000	897,032,001,000
Net ton miles	295,974,881,513	310,484,479,921	373,098,602,000
Tare ton miles	447,579,600,487	456,388,198,079	523,933,399,000
Tare ton miles per car mile		23.11	23.71
Savings in gross ton miles		10,226,626,962	19,157,629,284
Frt. transportation expense (rail line)	$843,496,586	$908,540,097	$1,046,593,000
Transportation expense per 1,000 G.T.M.	$1.13	$1.18	$1.16
Savings in transportation expense		$12,067,420	$22,222,850

Savings 2 years 1935 and 1936 — $34,290,270

In accordance with the usual practice, the committee reports consisted simply of a history of the work accomplished. The committees accomplish a vast amount of work during the year in the way of changing and clarifying car service rules, revising records and in the demurrage, storage, reconsignment and diversion fields; the work being handled by mail by concurrences and letter ballots.

The meeting was presided over by J. Cannon, general manager, Missouri Pacific, as chairman, G. Metzman, manager freight transportation, New York Central, as vice-chairman, and G. C. Randall, chairman, general committee, and L. R. Knott, secretary, representing the A. A. R.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading for the week ended May 15 totaled 773,669 cars, an increase of 6,188 cars or eight-tenths of one per cent above the preceding week, an increase of 92,261 cars or 13.5 per cent above the corresponding week in 1936 and an increase of 190,719 cars or 32.7 per cent above the corresponding week in 1935. All commodity classifications except coal and forest products showed decreases under the preceding week, while all commodity classifications except grain showed increases over last year. The summary, as compiled by the Car Service Division, Association of American Railroads, follows:

Revenue Freight Car Loading

For Week Ended Saturday, May 15

Districts	1937	1936	1935
Eastern	170,591	150,322	136,765
Allegheny	161,093	138,074	114,510
Pocahontas	49,594	46,067	38,278
Southern	106,380	94,081	84,084
Northwestern	125,600	106,073	82,451
Central Western	104,841	94,794	82,003
Southwestern	55,570	51,997	44,859
Total Western Districts	286,011	252,864	209,313
Total All Roads	773,669	681,408	582,950
Commodities			
Grain and Grain Products	26,905	30,558	25,184
Live Stock	12,567	11,672	12,516
Coal	116,262	106,679	100,812
Coke	10,209	7,997	5,870
Forest Products	39,481	33,126	24,201
Ore	71,066	46,559	28,027
Merchandise L.C.L.	170,023	162,269	158,120
Miscellaneous	327,156	282,548	228,220
May 15	773,669	681,408	582,950
May 8	767,481	668,866	575,020
May 1	782,423	670,888	568,927
April 24	761,182	665,949	558,936
April 17	751,328	642,278	611,141
Cumulative Total, 20 Weeks	14,377,453	12,466,650	11,533,916

Car Loading in Canada

Car loadings in Canada for the week ended May 15 totaled 46,902, a decrease of 4,272 from the previous week's total of 51,174, but were 1,761 above last year's total of 45,141, according to the compilation of the Dominion Bureau of Statstics. The recession from the preceding week is ascribable to the Coronation holiday on May 12.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
May 15, 1937	46,902	28,665
May 8, 1937	51,174	30,609
May 1, 1937	49,447	30,559
May 9, 1936	45,141	25,063
Cumulative Totals for Canada:		
May 15, 1937	899,523	545,186
May 9, 1936	813,002	448,670
May 11, 1935	806,951	432,865

A.S.M.E. Meets at Detroit

THE 1937 semi-annual meeting of the American Society of Mechanical Engineers, held May 17-21, inclusive, at Detroit, Mich., proved of sufficient general interest to attract a registered attendance of 940 members and guests, including a considerable number of representative men in the railway and railway supply fields. The five-day meeting was notable for the inclusion of addresses and papers on eight definite railroad subjects and, in addition, several other papers presented information having an important bearing on present and future railroad problems.

In the first general session, following a keynote address by C. F. Hirshfeld, chief of research, the Detroit Edison Company, on the influence of automotive production methods in other engineering fields, the subject "Modern Locomotive and Axle Testing Equipment," was presented by T. V. Buckwalter, vice-president, W. C. Sanders, general manager, Timken Railway Division, and O. J. Horger, research engineer of the Timken Roller Bearing Company, Canton, Ohio. In presenting this paper, Mr. Buckwalter showed how improved locomotive driving and running gear reduces dynamic augment on the rail and vibration in locomotive and track structures, thus permitting much higher operating speeds with safety. Preliminary results of fatigue tests on full size driver-axle assemblies were described, as well as the influence of designs, steels, and heat treatment upon axle fatigue strength.

In discussing "Automotive Engineering Applied to Railroading," Edward G. Budd, president, Edward G.

Budd Manufacturing Company, Philadelphia, Pa., pointed out the differences between automobile and railroad requirements and discussed the influence of automobile and airplane design upon the design and construction of railway equipment. Topics covered included the cost per passenger mile, weight reduction, ease of assembly and interchangeability, noise elimination and more rapid acceleration and braking. At this same session the "Economics of Power for Light-Weight Trains" was presented in a paper by Rupen Eksergian, Edward G. Budd Manufacturing Company, Philadelphia. In this paper the desirability of minimum weight equipment and limited-weight power plants was stressed. It was replete with technical formulae and discussions.

At a joint meeting of the American Welding Society and the Machine Shop Practice Division of the A.S.M.E the subject "Welded Steel in High-Speed Railroad Service," was presented by Everett Chapman, president, Lukenweld, Inc., Coatesville, Pa. Mr. Chapman described the basic design factors in welded steel construction and the detailed stresses which must receive attention if welded structures are to give long service under dynamic loads. In this paper and particularly the discussion which followed, the point was made that in spite of the tremendous advance and improvement in welding technic in recent years, welding is by no means a panacea, and this new fabrication process must be employed intelligently and particularly with reference to the elimination or control of internal stresses due to expansion and contraction.

The subject "High-Speed Diesel Engine Maintenance Practice on the Canadian National," was presented by I. I. Sylvester, special engineer, Canadian National, Montreal, Que. Mr. Sylvester described the experience of the Canadian National in maintaining Diesel powered equipment since 1925, with particular reference to the adaptation of steam locomotive maintenance organizations and methods to this newer type of power. He stressed the importance of performance and wear measurement records without which maintenance work is bound to be more or less haphazard, inefficient and unsatisfactory.

"Electricity in Transportation" was the subject of a paper and talking moving picture presented by H. L. Andrews, vice-president, General Electric Company, New York, which showed in a striking way the different types of motive power applications which railroads are using today to help solve the problem of balancing income against expenditure.

In discussing "Air Resistance of Railway Equipment," A. I. Lipetz chief consulting research engineer, American Locomotive Company, Schenectady, N. Y., described wind tunnel tests on models of locomotives, streamlined cars, and power cars for Diesel-electric trains, which show that air resistance is the most important factor in resistance of railway equipment operating in still air. For all practical purposes this resistance can be represented by a simple expression involving the square of the speed and a coefficient, which depends upon the shape and construction of the vehicles.

In discussing the subject "Resistance of Light-Weight Passenger Trains," A. I. Totten, transportation engineering department, General Electric Company, Erie, Pa., described how the tracks, journals, wheel flanges, air, wind, air conditioning and lighting equipment effects the resistance of modern streamlined trains. Formulae were included in the paper for calculating these specific resistances and examples were given showing their application.

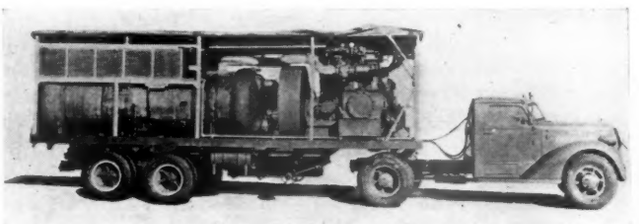
These eight specific railroad papers were presented at four meetings held under the auspices of the Railroad Division, two of the meetings being presided over by W. H. Winterrowd, vice-president, Franklin Railway Supply Company, Chicago, and two by W. E. Dunham, superintendent car department, Chicago & North Western, Chicago. E. L. Woodward, western mechanical editor, *Railway Age,* served as official recorder.

In addition to the papers on specific railroad subjects, the discussion of "Rubber Cushioning Devices" by Dr. Hirshfeld, was of considerable general interest to railway men and the same statement may be made with regard to several papers on lubrication, cutting metals, apprenticeship and craftsmen training.

Trailer-Mounted Precooling Unit

THE largest as well as the first trailer-mounted portable precooling plant ever built, the illustrated 70-ton Diesel-driven compressor unit and another like it, were recently placed in operation to provide additional precooling capacity for California citrus and lettuce packing plants during peak shipping periods. Despatched to points where car loadings temporarily tax local precooling facilities, these units are intended to speed up loading operations by lowering temperatures more quickly, reduce icing time and costs en route, and eliminate large investments in stationary equipment needed only for short periods.

Owned and operated by the Pre-Cooling Corporation, a subsidiary of the General American Car Company, each unit comprises a 70-ton Vilters compressor with



Vilters 70-ton Compressor Mounted on a Trailer Used for Precooling Refrigerator Cars

brine tank and circulating pump, powered by a Cummins Diesel engine, mounted on a 24-ton Syncro-Float semi-trailer with tandem axles built by the B. & J. Trailer Company, Chicago, Ill.

Parked adjacent to the loading dock, the brine tank is connected by means of flexible hose connections to fin-coil precooling units which serve individual cars. Each coil unit is equipped with a motor-driven fan which forces air through the coils and into the cars. The use of these large portable refrigerating plants permits chilling as many as five cars at a time. Safe loading temperatures are obtained in less than two hours. The increased number of cars which these plants are said to be capable of chilling offers advantages in both efficiency and economy by providing maximum boosting capacity with a limited number of operating units.

AS ANNOUNCED IN THE OFFICIAL TIME-TABLES for May, 1937, the Great Indian Peninsula Railway (British India) offers to passengers, desiring transportation over the narrow-gage route between Nerrol Junction on the Bombay Poona main line and the mountain resort, Matheran, special rail motor coaches which can be requisitioned on short notice at a minimum charge of four full fares.

Communications . . .

The Railway Age cannot publish letters from readers who do not supply their names and addresses. Names of correspondents are not published, or disclosed even upon inquiry, unless the correspondent consents. But they must be given us as an evidence of good faith.

"Cub Pack" Goes by Train

CRANFORD, N. J.

TO THE EDITOR:

In line with your article in the April 24 issue and the recent letter of Scoutmaster A. H. Durieux, both pertaining to the use of the railroad by scouts, you might be interested in knowing that on May 1, in conjunction with the Central Railroad of New Jersey, we ran a special train to the Lakehurst Hangar. This trip was planned primarily for my cub pack of 105 boys. Parents and friends of the boys raised the number going to 165. It was surprising to us how many of these children had had little or no opportunity to "go by train." The Central Railroad, represented by Mr. Yerkes, extended itself to make the trip a pleasant and memorable one for the young scouts.

SANFORD K. THOMSON,
Cub Master, Pack #3, Union Council, Boy Scouts of America.

The Crossing Signal Question

WASHINGTON, D. C.

TO THE EDITOR:

As a motorist who has traveled thousands of miles by automobile during the past 20 years, I am somewhat familiar with the question of highway-railroad crossing protection, discussed at some length in the editorial which appeared in the *Railway Age* of April 17.

I fully agree that "motorists must observe grade-crossing signals," but I am not so sure, as you seem to be, that the present standard flashing-light or wig-wag signal is the last word in highway-railroad crossing protection. In the very commendable movement toward standardization, which has been a prominent feature of our material progress during the past generation, I have never quite been able to understand why a warning signal at a railroad crossing should convey to a motorist on the highway any different information than that which he receives at a street or highway intersection. Your editorial contains the following statement:

"The aspect of a standard highway-railroad crossing signal is distinctive *because it is decidedly different from any other sign or signal used in the direction of highway vehicles.*" (Italics mine.)

You apparently believe this difference to which you call attention is one of the standard signal's strong points. On the contrary, my long experience as an automobile driver leads me to conclude that this difference is the standard signal's greatest weakness.

It is quite true, as you say, that the average motorist observes and obeys stop-and-go lights at street and highway intersections from force of habit. Whether the habit has been acquired by fear of arrest is beside the question; it makes no difference with the fact. But when an automobile driver encounters a flashing-light or wig-wag in operation at a railroad crossing, what shall he do but "use his own judgment in obeying the signal aspect"? The signal tells him to stop, but it fails to tell him when it is safe to go. Isn't it quite natural that, after waiting a reasonable length of time for the signal to clear up, and seeing the track clear in both directions, the motorist should proceed over the crossing against the indication of the signal?

When a motorist stops for a red signal at a street or highway intersection, he does not attempt to pass over the intersection against the red signal, even though the intersecting road is clear in both directions as far as he can see. He waits patiently at the intersection upon the assurance that the light will soon change color, giving him positive information that he may proceed over the intersection in safety. But he has no such assurance at a railroad crossing. He must wait indefinitely for the signal to stop flashing, or take his life in his hands and proceed in defiance of the signal.

The question of railroad grade-crossing protection will be properly solved when the automobile driver on the highway receives the same indication at a railroad crossing as he receives at a street or highway intersection.

W. P. BORLAND,
Retired, Director of Bureau of Safety, Interstate Commerce Commission.

North Western Lays 6½ Miles of Transite Pipe

(*Continued from page 906*)

joint were then marked a distance from the ends equal to one-half the length of the sleeve, 4 in., this being essential so that the operator would know when to stop the movement of the sleeve.

A hydraulic puller was attached to the section of the pipe last laid by means of a chain, and a collar was placed back of the sleeve. The puller and the collar were then connected by chains and the sleeve was pulled into place. As the sleeve moved forward it engaged the back ring which rolled forward inside of the sleeve, stopping above 2 in. from the end of the pipe when the coupling was in proper position. Likewise the ring at the end of the pipe rolled inside of the sleeve and over the adjacent pipe to a position approximately 2 in. from the end of the latter. The whole operation did not require more than two or three minutes after the rings were in proper position for the assembly and the position of the sleeve had been marked on the pipe.

In their free state the rubber rings for the 14-in. pipe have a diameter of 12.8 in., the outside diameter of the pipe being 16.5 in., while the cross-sectional diameter is 0.66 in. In the assembled joint the rings are compressed to a thickness of 0.33 in. and are considerably flattened. Because of this compression and flattening of the rings considerable pull must be exerted to bring the sleeves into the required position, amounting to about 2,600 lb. for the 14-in. pipe.

The new line was placed in service on January 6. In view of the radical departure from generally accepted practice in railway water service, which this line represents, with respect to both the pipe and the joint construction, it is of interest that when the new line was tested only two leaks developed in the entire 6½ miles and that both of these occurred as a result of faulty assembly of the joints.

The entire project was planned and carried out under the general direction of the chief engineer of the Chicago & North Western. The field operation was carried out under the direct supervision of E. L. Mead, division engineer, together with his assistants. The Railroad Water & Coal Handling Company, Chicago, constructed the pipe line and incidental equipment, with the exception of the spans across the Des Plaines river, which were constructed by railway forces.

NEWS

Atlantic City Show Opened to Public

Railroads and supply industry co-operating to stimulate general interest

That the railroad industry is taking full advantage of public relations opportunities afforded by the forthcoming Atlantic City exhibit of the Railway Supply Manufacturers Association is indicated by plans to attract railroad "fans" and the public generally to the show on the June 19-20 week-end. On those two days the exhibit for the first time will be open to the public, the only requirement for admission being a showing of the return coupon of a round-trip rail ticket to Atlantic City. And special low round-trip rates from a wide area will be available on that week-end, while the exhibit will include a new feature in the form of a railroad exposition, arranged through the co-operation of the Railway Business Association and the Association of American Railroads.

Eastern railroads generally are participating in the low week-end rates, and are giving them wide publicity both in their individual advertising and joint posters on display at stations and other points. The normal area from which week-end rates to Atlantic City are published is being extended, and such rates, usually available alternately on different roads serving the resort, are to be opened to all lines.

The plan for opening of the exhibit to the public originated with S. G. Down, vice-president of the Westinghouse Air Brake Company and president of the R.S.M.E., who regarded it as an unusually fine opportunity for an appeal to the numerous railroad "fans" and the public generally. His organization has agreed to staff the exhibit to accommodate the Saturday and Sunday visitors.

The railroad exposition will be staged at Atlantic City by the Railway Business Association, after which it will be shown under A.A.R. auspices in the larger passenger stations throughout the country. It is to be an animated display on a panel 40 ft. long, 11 ft. high and 8 ft. deep, having seven openings or show windows. In the large center panel will be a diorama depicting a modern town with a three-track railroad conspicuously in the foreground. Over these tracks miniature scale models of freight and passenger trains will be operating. The town will be done in true perspective, complete with a passenger station, a freight house, side tracks, stock yards, coal and water facilities, a highway with operating crossing gates, a signal bridge, and motor trucks to illustrate pick-up and delivery. In the distance will be the town with its residential and business sections.

Flanking this main central piece will be three other panels on each side. These will illustrate the significance of railroads in their relation to American life and prosperity, depicting in turn the railroads as taxpayers, as "America's best customers," railroad safety, the ramifications of railway purchases in bringing prosperity to other industries, and the railroads as employers and how the payroll moneys are spent. The remaining panel will depict significant railway equipment and materials developed by the supply industry, including showings of old equipment in contrast with the new.

Wage Meeting June 3

Wage increases of 20 cents an hour, demanded by the fifteen non-operating brotherhoods, will be negotiated by the Carriers' Conference Committee and representatives of the brotherhoods at a meeting in Chicago on June 3.

Crossing Fatalities Increase

Fatalities resulting from highway-railroad grade crossing accidents in the first two months of this year totaled 332, an increase of 38 compared with the corresponding period last year, according to the Safety Section, Association of American Railroads.

In the first two months this year, 1,017 persons were injured in such accidents compared with 996 in the corresponding period in 1936. Reports showed 874 grade crossing accidents in the two months, an increase of 41 compared with the preceding year.

In the month of February alone, there were 162 fatalities, an increase of 32 over February, 1936, while 490 persons were injured compared with 453 last year. Highway grade crossing accidents in February totaled 416 compared with 389 in February.

Saturday is the day of greatest frequency for grade crossing accidents, according to an analysis of such accidents which took place in 1935 and 1936, just made public by the Interstate Commerce Commission. In approximately 79 per cent of the accidents that occurred in the past year, the train speed was less than 40 m.p.h.

H. C. Couch Heads K. C. S. Directors

Southwestern utilities and rail leader takes post long held by Loree

Elected director and chairman of the executive committee several months ago, Harvey Crowley Couch assumed chairmanship of the board of the Kansas City Southern at an organization meeting of the board of directors on May 25, succeeding K. D. Steere, who took office at the first of the year, upon the resignation of L. F. Loree, president of the Delaware & Hudson. Mr. Steere remains on the board of directors.

Mr. Couch's assumption of the chairmanship, which follows his recent purchase of substantial interests in the company, places all executive control of the K. C. S. in the Southwest, its home territory. The new director was formerly chairman of the Louisiana & Arkansas, and C. P. Couch, a brother, continues to hold the presidency of the road.

Mr. Couch, born in Calhoun, Ark., on August 21, 1877, and educated at Southwestern Academy in Magnolia, Ark., was employed in railway mail service from 1897 to 1904, when he aided in the organization of the North Louisiana Telephone Company and became an operator in the staff of the organization. Rising to the presidencies of several large utility companies in the lower Mississippi valley, including the Arkansas Power & Light Co., the Mississippi Power & Light Co., and the Louisiana Power & Light Co., Mr. Couch concentrated his activities in the power and communications industries until recent years. He also served on the boards of several banking organizations, including the Chase National Bank of New York.

During the World War, he served as Federal Fuel Administrator for Arkansas and worked as director of the Arkansas State Flood Commission and chairman of the American Red Cross during the flood of 1927.

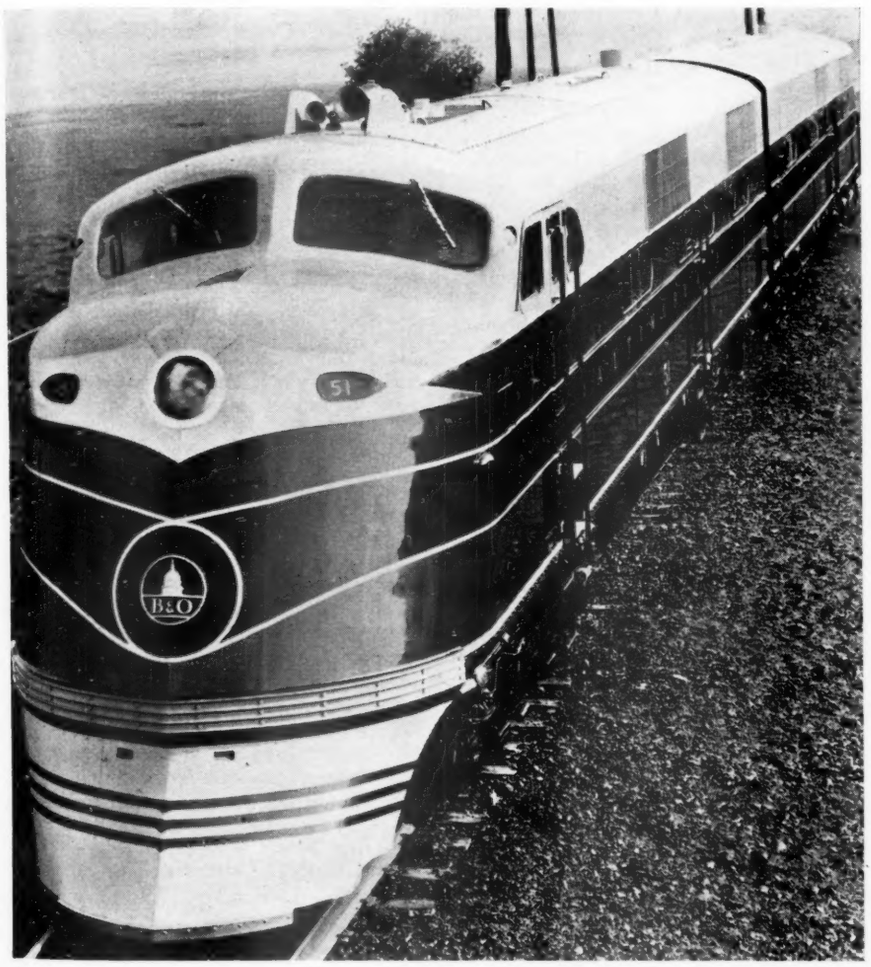
At the present time, Mr. Couch is a trustee of the Henderson-Hendrix College and the George Peabody College for Teachers.

Entering the railway field in 1928, Mr. Couch became president of the Louisiana & Arkansas, resigning in 1932 to serve as chairman of the board, in which capacity, as stated above, he remained until recently.

Diesels to Haul Capitol Limited

B. & O. receives first of two 3600-hp. locomotives from Electro-Motive

On May 19 the Baltimore & Ohio received a 3,600 hp. Diesel-electric locomotive from the Electro-Motive Corporation. It is one of two similar units to be placed in service on the "Capitol Limited" between Washington, D. C., and Chicago after completion of deliveries, scheduled for shortly after June 1.



New B. & O. Diesel-Electric Locomotive

Identical in capacity and wheel loadings with the locomotive recently built for the Santa Fe's "Super Chief," which was described in the *Railway Age* for May 22, page 855, each of the 3,600-hp. streamlined locomotives is composed of two 1,800-hp. units coupled for multiple-unit operation, with a single control station in the cab of the leading unit. The motive power for each 1,800-hp. unit is identical and consists of two 900-hp. Electro-Motive power plants controlled simultaneously from the main locomotive throttle. The total weight of each locomotive, with full fuel supply, water and sand, is about 569,000 lb.

The locomotive was inspected by C. W. Galloway, operating vice-president of the Baltimore & Ohio, and other officers of the railroad and of General Motors, on May 19, preliminary to formal delivery and acceptance at Baltimore, Md. Charles F. Kettering, vice-president in charge of research of General Motors, Mr. Galloway and H. L. Hamilton, president of the Electro-Motive Corporation, a General Motors subsidiary, were speakers at the luncheon which preceded the delivery.

The engine made its first lap on the B. & O. on May 20 in a test run from Chicago to Washington, D. C., and at present, pending delivery of the other power on order, is hauling the streamlined "Royal Blue" between New York and Washington. On the southbound trip of May 25, at a point near Washington, the locomotive was met by the B. & O.'s "Tom Thumb," the road's first locomotive, built in 1829, hauling the original directors' car filled with "passengers" in appropriate costumes, and together the trains rolled into Union Station.

Personnel Changes in N. Y. Office of Japanese Railways

The Japanese Government Railways announce the appointment of Minoru Yagami as resident representative in the New York office, at 551 Fifth Avenue. He succeeds M. Otsuki, who has returned to the Tokyo headquarters.

C. & O. Purchases Rescued Alleghany

Wheeler probers trace deal which gave needed funds to holding company

The story of how the Chesapeake & Ohio by purchasing Pere Marquette and taking options on Erie and Nickel Plate holdings of Alleghany Corporation extricated the latter from financial difficulties which it encountered in late 1931 and early 1932 was spread upon the record at this week's hearings in the railroad finance investigation being conducted by a sub-committee of the Senate committee on interstate commerce. Witnesses at the sessions, which, in the absence of Senator Wheeler of Montana, were conducted by Senator Truman of Missouri, included Karl Weisheit, former vice-president of the Guaranty Company, a former affiliate of the Guaranty Trust Company of New York; W. J. Harahan, president of the Chesapeake & Ohio, the Pere Marquette and the Nickel Plate; John P. Murphy, secretary of Alleghany Corporation; and Thomas H. Jones, a partner in the Cleveland, Ohio, law firm of Tolles, Hogsett & Ginn.

It was the contention of Lucien Hilmer, assistant counsel for the committee, who conducted the examination of witnesses, that the option device in connection with the C. & O.-Alleghany transaction in Erie and Nickel Plate was adopted to avoid the necessity of seeking Interstate Commerce Commission approval of the deal, and to preclude the C. & O.'s running afoul of the anti-trust laws. It was brought out that the price at which the C. & O. acquired the Pere Marquette stock and the option on that of the other two roads was about one and three-fourths million dollars in excess of the market value of the securities involved.

Alleghany's difficulties arose from the 1931 decline in the market value of securities which it had pledged in a margin account with Paine Webber & Company. Despite successive reductions which brought this debt to Paine Webber down from $10,600,000 on September 21, 1931, to $5,701,000 on January 27, 1932, the concurrent drop in the market value of the pledged collateral produced a situation wherein the account was undermargined by 11.43 per cent on the latter date; and had been thus deficient by 41.01 per cent on January 4, 1932.

From his examination of Mr. Weisheit and exhibits, Mr. Hilmer disclosed that at the end of 1930 "about all" of Alleghany's securities were pledged either under its bond indentures or under the Paine Webber debt; and that the principal securities hypothecated in the latter connection were those carrying control of the Missouri Pacific. This situation, Mr. Weisheit agreed, caused the bankers much concern, because if Paine Webber had to make a forced sale it would have cut Alleghany's control of M. P. from 51 per cent to 37 per cent. While he disliked the term "insolvent," Mr. Weisheit did agree that at the end of 1931 Alleghany's debts ex-

ceeded its assets. In January, 1932, Paine Webber called for a payment on the debt.

In view of these and other "unfavorable factors," which he recounted, it was Mr. Hilmer's deduction that Alleghany was "headed for bankruptcy" unless someone "came to its rescue." In other words, he continued, the only way that Alleghany could have got out from under was through some disposition of some of its securities; and in this there was the danger of the Van Sweringen interests losing control of roads whose securities were thus liquidated. When Secretary Murphy of Alleghany said he didn't know whether or not any of the so-called Van Sweringen railroads were at the time in a position to perform the rescue act, Mr. Hilmer observed that the Missouri Pacific and Erie were "at the door of the R.F.C." and the Nickel Plate was well supplied with bank loans. Thus the committee counsel turned to the Chesapeake & Ohio and called President Harahan of that road. Through the latter's testimony it was brought out that the C. & O. in 1932 earned more than its dividend requirements as it did throughout the depression; and Mr. Murphy admitted that C. & O. dividends had been the "main support" of Chesapeake Corporation and Alleghany.

Questioning in turn Messrs. Harahan and Murphy and also occasionally Mr. Jones of Tolles, Hogsett & Ginn, Mr. Hilmer traced the history of the February, 1932, transaction whereby the C. & O. purchased from Alleghany 46,200 shares of Pere Marquette common stock for $508,200, and entered the option agreement securing the right to purchase 215,000 shares of Erie and 167,300 shares of Nickel Plate for $5,065,475. The C. & O. further agreed to deposit $3,440,700 under the option agreement which was originally for four years but has since been extended two years. The deal, Mr. Hilmer calculated, committed the C. & O. to a total outlay of $5,573,675 for securities which at the time had a market value of $3,739,775.

Mr. Harahan justified the transaction on the grounds that the C. & O. was "getting a very good bargain." He was not familiar in detail with the transaction which was consummated by a committee of which he was not a member. The first he heard of it was when told by the late J. J. Bernet, then president of the C. & O. Mr. Harahan conceded later that the C. & O. had no assurance that the I.C.C. would approve the acquisition if it sought to exercise the option. He would not agree, however, that his road was "gambling" on I.C.C. approval—he thought that only a normal "business risk" was involved. The C. & O. application for authority to acquire the Erie and Nickel Plate directly is now before the I.C.C.

In response to further questioning, Mr. Harahan could see no relation between the action of the C. & O. and the crisis faced by Alleghany, but Mr. Murphy did see a tie-up. It was the latter's view that Mr. Bernet, knowing that Alleghany had to sell, was anxious to get the securities for C. & O.

Mr. Jones was questioned as to his firm's advice in connection with the use of the option plan. He admitted that it had the effect of avoiding I.C.C. scrutiny at the time. There was also some discussion with this witness as to the application of the anti-trust laws. Among the exhibits was an extract from a memorandum prepared by a member of the Tolles, Hogsett & Ginn firm on this point. This extract held that the C. & O. could not justify the purchase of Erie and Nickel Plate "merely as an investment" but continued to suggest that "the situation can be cured as to the Chesapeake & Ohio" by the purchase of the Pere Marquette stock and the option plan as to that of the other two roads.

During the hearing on May 25 Senator Truman of Missouri, who was presiding in the absence of Senator Wheeler, asserted that "the farther I go with this investigation, the more I am convinced that railroad holding companies are an evil to the railroads and the public and must be eradicated."

At the May 26 session of the Senate sub-committee investigating the financing of railroads, Robert R. Young occupied the stand and was questioned at length by Max Lowenthal, counsel for the committee, regarding the plans of the three new owners of the Van Sweringen empire, Mr. Young, Mr. Kirby, and Mr. Kolbe, regarding the simplification of the holding company structure. Mr. Young told the committee that they had already eliminated Mid-America Corporation and that plans were rapidly going forward to eliminate either Chesapeake or Alleghany Corporation. He said that the final step in the liquidation of the first degree holding company which would be either Chesapeake or Alleghany Corporation would probably take 10 years.

Questioned regarding the present application of the Chesapeake & Ohio to acquire control directly of the Erie and Nickel Plate, Mr. Young said that he thought the application should be granted by the I.C.C. as he felt that it would be in the public interest. He said that the approval of the commission would be just a formality as he thought that the taking of the option by C. & O. to purchase control from the Virginia Transportation Corporation was a sale in every sense of the word and an accomplished legal fact. He went on to say that he felt that this matter of consolidation should have been cleared up long before. Mr. Young testified that he was definitely certain that the Nickel Plate should be brought into the C. & O. system, but that he was not clear as to the advisability of including the Erie and Pere Marquette.

Mr. Young revealed that he and Mr. Kolbe had been conferring with Commissioners Eastman and Mahaffie during the past week regarding the consolidation of these properties and the elimination of the top holding companies. Replying to a question of Mr. Lowenthal, Mr. Young said that he did not believe that it would be wise to legislate to abolish all railroad holding companies because in attempting to abolish one like Alleghany, one would also strike at good holding companies such as are in control of the properties of the Union Pacific, Southern Pacific and the Santa Fe.

Mr. Lowenthal reiterated his belief that the commission would and should refuse the present application of the C. & O. on the grounds that the set-up was too complicated financially and that control involved too small a percentage of ownership. He introduced a memorandum opinion of Tolles, Hogsett & Ginn, attorneys for the Van Sweringen interests, in 1926 which inferred that the grouping of certain of these roads would be in violation of the Sherman and Clayton Anti-Trust Acts. The committee expects to conclude hearings on this phase of the investigation this week and will next go into either the Milwaukee or the Pennsylvania systems.

Railroad Credit Corp. Announces Dividend

E. G. Buckland, president of the Railroad Credit Corporation, has announced that the Corporation will make a liquidating distribution of two per cent on May 31, amounting to $1,470,814. Of this amount $1,198,109 will be paid in cash and $272,705 will be credited on carriers' indebtedness to the Corporation. This will bring the total amount distributed to $53,663,421, or 73 per cent of the fund originally contributed by the carriers participating in the Marshalling and Distributing Plan, 1931. Of this total $26,939,845 will have been returned in cash and $26,723,576 in credits.

Would Give Certificate for C. V. Contract Bus Service

Joint Board No. 116, composed of Stephen S. Cushing of Vermont, has recommended in a proposed report to the Interstate Commerce Commission that the Vermont Transit Company be authorized to continue contractual arrangements with the Central Vermont whereby it transports the latter's rail passengers, baggage and mail between Burlington, Vt., and Essex Junction, including all intermediate points and Ft. Ethan Allen, an off-route point. The board found that the applicant is entitled to a certificate under the motor carrier act's "grandfather clause."

New Orleans Carriers Oppose New Switching Rates

New Orleans line haul carriers have filed a petition with the Interstate Commerce Commission objecting to a new schedule of switching rates proposed by the New Orleans Public Belt. In the petition they contend that they are unable to absorb the increase from $6.30 per car to a minimum of $7.00 and a maximum of $10.00 because "they are in as great or greater need of revenue than is the Belt." They further assert that "the Belt is exclusively a switching line, created by act of the state legislature, owned and operated by the city of New Orleans, and therefore exempt from payment of city and state taxes." The proposed increased charges, if absorbed, would increase the respondents' absorptions approximately $175,000 annually.

Status of Grade Crossing Program

A total of $68,217,103 of United States works program funds has been spent on completed grade crossing projects, accord-

ing to the latest compilation giving the status of the work as of April 30. The completed projects include 987 new separations, 171 reconstruction jobs and 144 crossings protected by signals or otherwise. On the same date a total of $95,689,928 had been apportioned to work under construction, including 797 new separations, 138 reconstruction jobs, and 345 protection projects. Approved for construction, with apportionments totaling $13,381,125, were 119 new separations, 23 reconstruction jobs and 397 protection projects.

Railroad Committee for New York World's Fair

At a recent meeting of the Eastern Presidents' Conference, a committee was appointed for consideration of the eastern railroads' share of the projected New York World's Fair. The committee was made up of J. M. Davis of the Delaware, Lackawanna & Western, F. E. Williamson of the New York Central, G. LeBoutillier of the Pennsylvania, Daniel Willard of the Baltimore & Ohio, and H. S. Palmer of the New York, New Haven & Hartford. At the same time a contribution was voted to the 31st annual convention of the Smoke Prevention Association.

Southwest Board Meeting

The fourteenth annual and forty-fifth regular meeting of the Southwest Shippers Advisory Board will be held in Dallas, Tex., on June 3. One of the most important subjects on the program is the handling of this year's wheat crop, which is the largest in several years. The movement is expected to start the first of June. The program of the meeting also includes an address by L. B. Denning, president of the Lone Star Gas System, reports of committees, and a luncheon sponsored by the Dallas Traffic Club and the Dallas Chamber of Commerce, at which Homer S. Snow, president of the Associated Traffic Clubs of America, will speak on "From My Point of View."

Charges of Contract Motor Carriers

Representative Powers of New Jersey this week introduced in the House of Representatives a bill (H.R. 7229) to amend Section 218(a) of the Motor Carrier Act so as to remove the requirement that schedules of minimum charges of contract motor carriers be published and kept open for public inspection. The requirements that such minimum charges be filed with the Interstate Commerce Commission and not changed without notice would remain; but that provision giving the Commission discretionary authority to require that copies of contracts be filed would be eliminated. The Commission in a recent order stipulated that contracts of contract carriers must be written.

Excursionists to Make Baldwin Trip via Central of N. J.

An inspection of the Baldwin Locomotive Works at Eddystone, Pa., on Sunday, June 13, will constitute the next rail pilgrimage for New York railroad zealots. Sponsored by the Railway & Locomotive Historical Society—New York Chapter, Railroad Stories Magazine, and the Central of New Jersey, the special train, which will carry an observation car regularly operated on the "Blue Comet," will leave the Jersey Central terminal at Jersey City, N. J., at 8:44 a.m. (standard time) and return from Eddystone at 2:45 p.m., and will run over the Reading's Chester branch freight-line between Philadelphia and Eddystone.

At the plant there will be placed on display locomotives in various stages of construction and a full-scale replica of "Old Ironsides," built in 1832, the first Baldwin product. The fare, $3.50, includes luncheon and intra-plant bus transportation.

Equipment on Order

Class I railroads on May 1, this year, had more new freight cars on order than on any corresponding date since 1926, according to the Association of American Railroads. The figure was 47,290, as compared with 48,762 on May 1, 1926. On May 1, last year, 18,467 cars were on order, and on the same day two years ago there were 1,449.

Included in this year's May 1 figure were 23,236 coal cars; 19,412 box cars; 2,093 refrigerator cars; 1,374 flat cars; 800 stock cars, and 375 miscellaneous cars.

Class I roads had 345 new steam locomotives on order on May 1, this year, the largest number for any corresponding date since 1930, at which time there were 362 on order. On the same day last year 52 new steam locomotives were on order, while two years ago there was only one.

New freight cars installed in service in the first four months of 1937 totaled 20,946, the greatest number of installations in any corresponding period since 1930, when there were 35,037. Class I roads in the first four months last year installed 5,916 new freight cars, and in the corresponding period in 1935, 755 were installed. New steam locomotives installed in the first four months this year totaled 86, compared with three in the corresponding period last year and 15 in the corresponding period two years ago. New electric and Diesel locomotives installed in the same period this year totaled seven, compared with three in 1936 and 39 in 1935. New freight cars and locomotives leased or otherwise acquired are not included in the above figures.

April Truck Loadings Increase 20 Per Cent

Truck loadings of revenue freight in April were 20.08 per cent greater than in the corresponding month last year, according to the monthly survey of American Trucking Associations, Inc. The April figure also represents an increase of 2.16 per cent over March. The survey is based on comparable reports received from 129 motor carriers in 28 states and the District of Columbia.

Actual tonnage reported for April was 536,300 tons, as against 525,927 tons in March, and 447,451 tons in April, 1936. The truck loading index figure, which is based on the monthly average for 1936 as representing 100, stands at 117.82.

April traffic showed increases over April, 1936, in all the principal commodity groupings with exception of groceries. The tonnage of groceries declined 4.11 per cent. As compared with March, this year, the April tonnage in the principal commodities increased except in petroleum and petroleum products and tobacco. General merchandise, which accounted for more than 60 per cent of the total tonnage, increased slightly less than 1 per cent in April over March, but 22.46 per cent over April, 1936.

Following is indicated the trend in some of the other principal commodity groups: Petroleum, 4.65 per cent over March, 29.6 per cent over April, 1936; automobiles, 1.89 per cent over March, 18.17 per cent over April, 1936; iron and steel, 10.97 per cent over March, 17.06 per cent over April, 1936; groceries, 8.47 per cent over March, 4.11 per cent under April, 1936; tobacco, 18.39 per cent under March, 28.99 per cent over April, 1936.

Our Apologies

Through a regrettable oversight, the source of the cartoon entitled "Ticket-Taker or Salesman," reproduced on page 891 of last week's *Railway Age* was not properly credited. It appeared originally as an advertisement by the Chesapeake & Ohio and Nickel Plate in "The Railroad Trainman" for May, 1937.

In the notice accorded Bulletin No. 43 of the Railway & Locomotive Historical Society, which appeared in the issue of May 15, page 841, the reference to the authorship of the article concerning the development of Illinois Central stations in Chicago was incorrect. The essay was written by C. H. Mottier, assistant in the engineering department of the I. C. system, and was contributed to the bulletin by C. J. Corliss, erroneously indicated as the author.

Emergency Board Reports on New York Dispute

The White House this week made public the report of the Emergency Board appointed by President Roosevelt to investigate the dispute between the Brotherhood of Railway Clerks and the International Longshoremen's Association which last month threatened to tie up railroad freight-handling operations on New York piers. The board, composed of Frank M. Swacker, William H. Davis and I. L. Sharfman, averted the impending strike by persuading the two unions that they should seek a settlement of their jurisdictional dispute through "established procedures of their own organizations or the orderly processes of the Railway Labor Act." This was agreed upon May 14, as the board's telegram of that date to President Roosevelt revealed.

The board's report sketches the history of New York jurisdictional conflicts between the two unions, from their roots extending back two decades to events immediately preceding last month's flare-up.

In closing, the board said that throughout the proceedings it held to the opinion that "when a jurisdictional dispute arises between two labor organizations, over representation of a single group of men by whom the particular work involved will be done in any event, the encouragement

of the men in concerted interruption of commerce in an effort to extort recognition of one or the other of the rival leaderships is intolerable; that it is a wrong against the public, against the carriers and not infrequently against the very men in whose interest the step is supposed to have been taken. The agreements arrived at involve recognition by all concerned of the great importance of maintaining orderly procedures in connection with labor relations in the transportation industry, particularly with reference to the adjustment of jurisdictional disputes, and of adhering to the requirements of the Railway Labor Act, in the interest of the parties as well as of the users of the transportation service."

Poster Publicity for Veterans

The Atlantic Coast Line is showing its appreciation of long and faithful service by displaying a poster testifying to the perfect record for 50 years' continuous service achieved by Conductor T. C. Davies, of Rocky Mount, N. C. This type of safety campaign gains effect by demonstrating what has actually been accomplished by men in service, Robert Scott, director of insurance and safety, points out, and has been well received by the company's employees.

Would Restrict Santa Fe Highway Routes

Six railroads into whose territories the highway routes of the Santa Fe Trail Transportation Company extend have filed with the Interstate Commerce Commission a brief as protestants to the Atchison, Topeka & Santa Fe's application for authority to acquire direct control of that motor carrier. The protestants are the Illinois Central, the Chicago, Rock Island & Pacific, the Alton, the Chicago & Eastern Illinois, the Illinois Terminal and the Wabash. Alleging that the Transportation Company's vehicles depart from the lines of the Santa Fe, and "in fact touch lines of said railway in only a few instances," they take the position that the commission should "restrict the acquisition to such operations as are parallel and auxiliary to the lines of the applicant."

The Santa Fe's application is pursuant to conditions imposed by the commission in previous decisions wherein the Santa Fe Trails Stages, a subsidiary of the Santa Fe Trail Transportation Company, was authorized to acquire the Central Arizona Transportation Lines, the Arizona-Utah Stages and the Rio Grande Stages. The conditions require that steps be taken to merge the Santa Fe Trails Stages into the Santa Fe Trail Transportation Company, and to effect the acquisition by the railroad from its subsidiary, the General Improvement Company, of the latter's interest in the Transportation Company.



"What Has Been Done, Can Be Done"—An A.C.L. Poster

Erie "Mystery Trip" Covers Little-Used Branch Lines

Advertised to the general public as a "mystery trip," the Erie operated a special train of coaches and diners out of New York (Jersey City terminal), over branch lines and connections rarely seen by passengers to Port Jervis, N. Y., where the party enjoyed a scenic tour in the city's motor trucks, fitted with seats for the occasion, and an inspection tour of the motive power in the divisional roundhouse. The itinerary included runs over the New York, Susquehanna & Western, the Lehigh & Hudson River, and the low-grade freight route of the Erie, known as the Graham Line. Stops were made en route for the photographers and nature enthusiasts. Tickets for the round trip were designated "From New York to '?' and return."

Fourth Section Relief on Motor-Rail Rates

The Interstate Commerce Commission has granted the application of the Chicago Great Western for fourth section relief in connection with certain of the motor-rail rates in which that road participates with motor carriers. The relief applies to specified rates over motor-rail-motor routes by way of Chicago and St. Paul, Minn., between points in western trunk line territory, and between points in that territory in the states of Minnesota, North Dakota, South Dakota and Wisconsin, on the one hand, and points in official territory on the other. It was granted with the proviso that the rates applicable at the higher-rated intermediate points shall not exceed the corresponding all-rail rates from and to the same points, and shall in no instance exceed the lowest combination of rates subject to the interstate commerce act. Also it is stipulated that the authorized relief shall apply only when the C. G. W. receives not less than $42.50 for the transportation of each loaded trailer between Chicago and St. Paul, Minn.

Schedule Changes on the Southern

The summer schedule of the Southern's "Skyland Special," running between Jacksonville, Fla., and Asheville, N. C., will be cut by almost two hours starting May 29. Northbound, for example, leaving Jacksonville at 9:05 p.m., as at present, it will arrive in Asheville at 11:05 a.m. as compared with 1:00 p.m., as formerly.

According to the June timetable folder of the Southern, several new sleeping car routes have been established to Asheville, N. C. One will operate between that city and New Orleans, La., via Oakdale, Tenn., and Knoxville, effective May 31, to run daily, and a second service will be estab-

lished between Asheville and Richmond, Va., effective June 15, to run thrice weekly. In addition to this new service it should be noted that on May 16 sleeping cars were newly placed in direct service between Asheville and Miami, Fla. These new facilities are a part of the program to feature western North Carolina and eastern Tennessee mountain resort territory and the timetable folder devotes several pages to photographic description of this region.

N. J. Board Bans Plea for Halt of Rail Work in Progress

Declaring that, when a carrier and municipal bodies have expended substantial sums on new or modified transportation facilities, no party has the right to question validity of state decisions pertaining to such activity, the Board of Public Utility Commissioners of New Jersey recently denied the Park Place Civic Association of Newark, N. J., right to a rehearing of the case involving the transfer of the Newark terminus of the Hudson & Manhattan from Park Place to the new Market street station of the Pennsylvania and abandonment of the former, in which the board on January 13, 1937, has granted permission to the railroad to make the changes.

The petitions of the association, which were filed three months after favorable decision had been rendered to the railroad, and which attacked the jurisdiction of the state board, asserting that the Hudson & Manhattan constitutes an interstate carrier, was rejected on the following grounds: 1. No objection to the change of facilities was advanced by any representative of the city of Newark, but rather the plan was complimented by all parties concerned. 2. Although the jurisdiction of the board is not "free from doubt," if it is true that the Interstate Commerce Commission has exclusive rights, the decision of the Board is void and the petitions should seek protection of the courts.

In summary, the Board asserted that the claims of the petitioner failed to justify the cessation of construction which had already consumed substantial funds.

Southern Governors Rate Complaint

Governors of nine southern states, comprising the Southern Governors' Freight Rate Conference, planned this week to file with the Interstate Commerce Commission a complaint alleging that the failure of railroads in New England, Central Freight Association and Trunk Line territories to make joint rates to and from Southern territory on a level no higher than they make among themselves in other territories constitutes an unreasonable prejudice and disadvantage to the South. The complaint sets forth that carriers in Southern territory on rates therefrom into other territories "are generally willing to make effective and will be benefited by rates comparable and competitive with the existing level of rates in C. F. A. and Trunk Line territories, and have repeatedly urged other carrier defendants to join in the establishment of such rates." But because the latter have refused, the "growth of industry generally in the South is stopped or retarded."

The commodities bearing the rates complained of include textiles, quarry products, ceramic products, chemicals, metallurgical products, processed articles and miscellaneous manufactures; but these are described as "not a complete list"—they merely illustrate "the type of commodity which promises to open the door to industrial progress in the South."

Governor Bibb Graves of Alabama signed the complaint as chairman of the committee designated to take such action. The other states involved are Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee.

Sodium Lights Used In Spotting Cars

Sodium lights of the type now installed at highway crossings and streets are now being used at the DeSoto automobile plant in Detroit, Mich., to facilitate night spotting of freight cars along the receiving platform and to speed up switching and unloading. The brilliant illumination thrown out by these bulbs, 45 lumen per watt, as compared with 19 from standard units, makes it possible to space the bulbs 250 ft. apart on the 1,260-ft. unloading platform. Since the light system increases visibility, trainmen can more easily place the cars at unloading doors.

June Activities of "Enthusiasts"

The Philadelphia division of Railroad Enthusiasts, Inc., will hold the June meeting on Friday, June 4, at 8 p.m., in Room 463, Reading Terminal, Philadelphia, Pa. The program includes a motion picture presentation of the recent New York Central, New Haven and Pennsylvania excursions, together with a film of the Baltimore & Ohio, entitled "Fair of the Iron Horse."

Atlantic City, N. J., will be the next objective of the New York division of this organization on Sunday, June 13, via the "Blue Comet" of the Jersey Central. Round-trip fare will be $2.75 and those wishing to return by trains other than the Blue Comet, in order to stay longer at the seashore, may do so.

F. E. Williamson, president of the New York Central, has made available a library to the New York division of this group,



Sodium Lights Speed Up Spotting at Unloading Doors

in Room 2724, Grand Central terminal, to be called The Williamson Library.

The library, which already contains a collection of books and periodicals, is being created primarily for the benefit of the younger members who are unable to subscribe to technical and economic publications. It is planned to have it open two evenings a week, under the supervision of a library committee.

February Accident Statistics

The Interstate Commerce Commission's completed statistics of steam railway accidents for the month of February, 1937, now in preparation for the printer, will show:

Item	Month of February 1937	Month of February 1936	2 months ended with February 1937	2 months ended with February 1936
Number of train accidents	864	1,046	1,709	1,864
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	173	167	316	302
Injured	131	155	285	323
Passengers on trains:				
(a) In train accidents*				
Killed	..	1	..	2
Injured	62	63	114	145
(b) In train-service accidents				
Killed	..	..	..	..
Injured	135	122	290	261
Travelers not on trains:				
Killed	..	1	1	3
Injured	66	91	153	163
Employees on duty:				
Killed	73	71	145	137
Injured	1,957	1,998	4,011	3,867
All other nontrespassers:†				
Killed	172	140	354	302
Injured	648	616	1,364	1,343
Total—All Classes of persons:				
Killed	418	380	816	746
Injured	2,999	3,045	6,217	6,102

* Train accidents are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

† Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Number of accidents...	416	389	874	833
Persons:				
Killed	162	130	332	294
Injured	490	453	1,017	996

May 21, 1937.

Chinese Five-Year Rail Plan Outlined in Quarterly

The April publication of the "Quarterly Review of Chinese Railways," published by the Institute of Railway Economics of Nanking, China, contains a complete analysis of the five-year plan of rail development under the direction of General Chiang Kai-Shek of the Nanking National government, by H. E. C. Kia-Ngau, minister of railways. Pointing out that China's present rail mileage totals only 8,000 kilometers (approximately 4,960 miles), the writer asserts, briefly, that the plan, which is based upon the original wishes of Dr. Sun, late President of the Republic, calls for the construction of 100,000 entirely new miles of line, or 20,000 per annum, to be divided into seven main systems. Construction began on 1,240 miles last year, which required over $200,000,000 for purchase of construction materials, which sum was made up largely of foreign capital. The article asserts that all of the projected routes will probably conform to the standard of net earnings that has been made the ruling principle of the plan.

A.A.R. Mechanical Division Meeting Program

The program of the sixteenth annual meeting of the Association of American Railroads, Mechanical Division, to be held June 16 to 23 at the Auditorium, Atlantic City, N. J., has just been made available and is given below. The business meetings will be held in the mornings, only, from 9:30 a.m. to 12:30 p.m., Eastern daylight-saving time, there being no sessions on afternoons or Saturday, as this time is set aside for inspection of the exhibits.

WEDNESDAY, JUNE 16

Meeting called to order at 9:30 a. m.
Welcome: Hon. Charles D. White, mayor of Atlantic City
Address by J. M. Symes, vice-president, Operations and Maintenance Department, Association of American Railroads
Address by Chairman J. W. Burnett, general superintendent motive power and machinery, Union Pacific
Action on minutes of annual meeting of 1936
Appointment of Committees on Subjects, Resolutions, Correspondence, etc.
Unfinished business
New business
Report of General Committee
Report of Nominating Committee
Discussion of Report on Lubrication of Locomotives

THURSDAY, JUNE 17

Meeting called to order at 9:30 a. m.
Individual Paper: "Research and Locomotive Development," by W. H. Winterrowd, vice-president, Franklin Railway Supply Company, Inc., Chicago
Discussion of Report on Locomotive Construction

FRIDAY, JUNE 18

Meeting called to order at 9:30 a. m.
Discussion of Reports on:
- Electric Rolling Stock
- Specifications for Materials
- Joint Committee on Utilization of Locomotives and Conservation of Fuel
- Safety Appliances
- Air Conditioning and Equipment Lighting

MONDAY, JUNE 21

Meeting called to order at 9:30 a. m.
Address: Hon. Frank McManamy, member, Interstate Commerce Commission
Discussion of Reports on Car Construction

TUESDAY, JUNE 22

Meeting called to order at 9:30 a. m.
Individual Paper: "What Next in Car Equipment," by L. K. Sillcox, first vice-president, New York Air Brake Company, Watertown, N. Y.
Discussion of Reports on:
- Arbitration
- Prices for Labor and Materials
- Loading Rules
- Tank Cars
- Lubrication of Cars

WEDNESDAY, JUNE 23

Meeting called to order at 9:30 a. m.
Discussion of Reports on:
- Couplers and Draft Gears
- Brakes and Brake Equipment
- Wheels

Election of Members of General Committee

Hearings on Retirement Bill

The House Committee on interstate and foreign commerce completed its public hearings on the Wagner-Crosser railroad retirement bill on May 21, the same day on which a sub-committee of the Senate interstate commerce committee held a similar hearing and then adjourned until June 1. The House group held an executive session on the bill on May 25 but no move to report the measure was expected before next week.

Closing testimony at the House committee's hearings was offered by Herman L. Ekern, former counsel for the Railroad Employees National Pension Association, and Murray W. Latimer, chairman of the Railroad Retirement Board. Mr. Ekern, appearing on his own behalf as an interested citizen, offered amendments which he considered to be in the interests of the employees. Mr. Latimer testified briefly, mainly as to the expected trend of disbursements under the plan.

At the hearings before the Senate interstate commerce committee's sub-committee, over which Senator Wheeler presided, George M. Harrison, chairman of the Railway Labor Executives Association, was the witness. His testimony was similar to that which he gave before the House committee, when, acting as spokesman for both labor and management, he explained the bill section by section.

That provision of the bill which would permit the Railroad Retirement Board to recruit its staff without reference to civil service laws brought the same expressions of misgivings from Senators as it had from House members. When Mr. Harrison explained that the purpose of the provision was to give furloughed railroad employees a preference, Senator Wheeler observed that "the trouble is you won't be able to select the employees—the politicians will do it." The chairman thought it "a very dangerous provision for the welfare of your own act." His advice was that the board's employees be put under civil service with an examination percentage handicap in favor of former railroad men. This would be similar to the treatment now accorded war veterans. Senator Davis of Pennsylvania concurred with Senator Wheeler on this point, and Mr. Harrison agreed to bring the matter up for reconsideration by the labor and management committees.

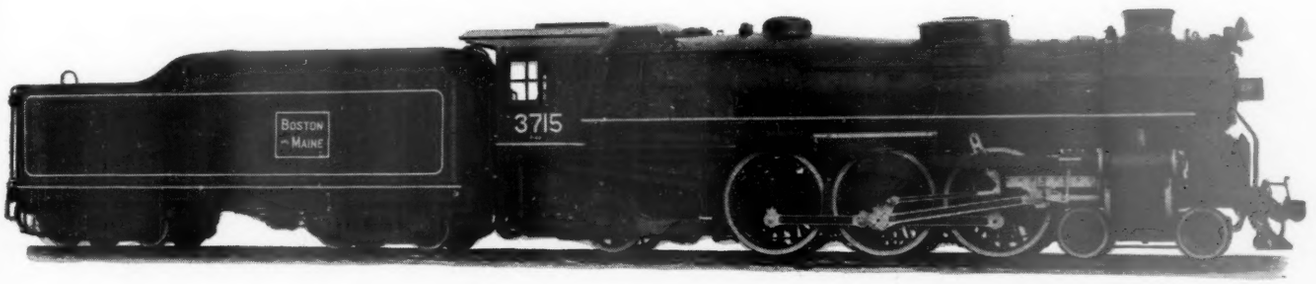
Collective Bargaining Upheld by Mississippi Court

The right of collective bargaining was upheld by the Mississippi Supreme Court on May 17 in an opinion rendered in the case of the Gulf & Ship Island Railroad versus Fred N. McGlohn, a former passenger conductor of the road. Mr. McGlohn contended that he was discharged without receiving the benefit of an agreement between the railroad and the Order of Railway Conductors, which pact stipulates that conductors will not be demerited, disciplined or discharged without just cause. The lower court dismissed Mr. McGlohn's suit on the grounds that the contract entered into between the Order of Railway Conductors and the railway company was void for the reason that it is unilateral and lacks mutuality. The opinion handed down by Associate Justice McGowen stated:

"The contract as negotiated here between the order and the system is usually called collective bargaining, and it is in the nature of rules by which the employer and the individual employees are to be governed in such line of service. The declaration alleges that the railroad company violated this article in discharging McGlohn. The contract was designed by the union

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Again STEAM!



For hauling their heavy fast passenger trains the Boston and Maine Railroad recently received from Lima five modern 4-6-2 type locomotives.

This new power combines high sustained tractive effort, rapid acceleration to road speeds and low cost operation.

In any service, today's high standard of train operation can be maintained and at the lowest possible cost only by utilization of modern steam power.

LIMA LOCOMOTIVE WORKS, LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

to protect its members from unreasonable, arbitrary and unjust dismissal by the company from their employment. They are thereby rendered free from the whims, caprice and passion of one immediate superior. This, in a measure, insured peace and protection to the employee.

"On the other hand this provision benefited the railroad company also, in that as employer its management would know that it tended to prevent revolt in the ranks of its employees caused by a real or imaginary wrong, and thus to a great extent insured harmony between employer and employees, and raised the morale of the employees, which condition tended to secure their loyalty and *esprit de corps* in the service of the master. If we say in this case that the contract was terminable at will and therefore could be ignored by the employer, then we have put the axe to the root of this agreement and have practically destroyed collective bargaining, so far as its enforcement is concerned in this case."

N. Y. Commission Defines "Engine" in Helper Case

Pointing out that rolling-stock customarily known as a "motor-car" cannot be construed as comprising an "engine," the Public Service Commission of the State of New York last week discontinued a proceeding brought on a complaint of the Brotherhood of Locomotive Firemen and Enginemen, alleging that the Erie is violating a state statute prohibiting the operation of any "fuel-electric engine" within the state unless it be manned by a crew of not less than one engineer and one fireman, or helper.

The equipment referred to in the case comprises gasoline-electric motor cars consisting of an engine compartment, which occupies less than one-quarter of the length of the car, and baggage, express and passenger compartments. At times a trailer passenger coach is attached to the motor units. The railroad pointed out that the crew operating this equipment never consists of less than two persons, since, in the car containing the engine compartment, there always rides a baggage man having immediate access to the motorman's compartment.

The complainant asserted that the units constitute in each instance a "fuel-electric engine" and that, although they carry a motorman and at least one other person, the operation does not comply with the statute which requires an "engine" to be manned with at least "one engineer and one fireman or helper." There was, however, no attempt to prove that the operation of this equipment is unsafe or dangerous.

The commission's opinion states that the question arises as to whether the equipment in question may properly be called, in the ordinary acceptation of the term, "fuel-electric engines," and adds that the starting point of the case is the legal rule that, unless a term is defined in the statute, it is to be considered as it is generally understood. It felt that an "engine," as currently known, does not carry passengers or property and does not include compartments for the handling of mail, express or baggage but is solely, or at least primarily, for the purpose of hauling or moving other rolling-stock.

"If the mere fact that an engine is installed in the car makes that car an engine, every automobile is an 'engine,'" continues the opinion. "Every hotel would become a saloon if there were a saloon in any part of the structure. Likewise, it would become a drug store whenever there is a drug store in the corner and it would become a golf club whenever part of it is used for golf instruction."

In summary, the commission decided that, since the statute in question does not use the term "motor car," but "fuel-electric engine," the equipment under discussion would not be so designated in ordinary parlance or in railroad terms, and points to briefs of those favoring the law and to the comment of Governor Lehman at the enactment of the law which interpreted the act as applying to Diesel locomotives and not to motor-cars.

As reported in the *Railway Age* of March 6, page 402, a national agreement was reached on February 28 by the Brotherhood of Locomotive Firemen and Enginemen and representatives of the principal railways of the country, which stipulated that helpers shall be employed on all locomotives of more than 90,000 lb. weight on drivers. Self-propelling rolling stock not included in the agreement were: 1. electric cars, 2. gasoline, Diesel-electric, gas-electric, oil-electric or other rail motor cars which are self-propelled units, all of which may handle additional cars, and to be distinguished from "locomotives" in having compartments for revenue lading or passengers. It was agreed, however, that new rail cars placed in service after March 15, and weighing more than 90,000 lb. on drivers, should be considered to be "locomotives."

Commission Requests Data From Milwaukee Road

The Interstate Commerce Commission has requested the Chicago, Milwaukee, St. Paul & Pacific to furnish it with comprehensive new data on the sources of traffic, revenues, expenses, and prospective earnings in order that the commission may resume public hearings on this company's reorganization plan on June 16. This hearing will be the first to be held since August, 1935, when short hearings were held on the plan of reorganization advanced by the company.

The data which the commission requests to be presented in exhibit form is classified as follows:

1. A statement of the Milwaukee's investment in affiliated companies, showing book value of securities and the market values; also the income account of each company in the system for the last five years and the latest available balance sheet of each company.

2. A statement of all bonds outstanding showing the amounts of principal and interest accrued and unpaid as of June 30, 1937.

3. A list of equipment obligations, showing original cost of the equipment, accrued depreciation charged and the amount of each series of certificates outstanding as of June 30, 1937, and the principal payments and interest payments which will be due each year from 1937 to 1947 inclusive. A description of the future needs for equipment and the program for retiring the old equipment.

4. A statement of the Railroad Credit Corporation and the Reconstruction Finance Corporation loans outstanding, showing the annual interest charges on each and the amounts of principal and interest unpaid.

5. An approximate estimate of the annual charges during the next five years in connection with the Railroad Retirement and Social Security Act, and the Revenue Act of 1936; also charges and credits of this nature from 1934 to the present time.

6. An approximate estimate of the funds necessary for working capital, rehabilitation, equipment, and for other purposes. An indication of the proposed method of financing.

7. A description of the present status of general claims.

8. A brief description of the lines abandoned since the first hearings, lines which it has been decided to abandon, and lines under investigation for abandonment.

9. Recent analyses showing the earnings of the Chicago, Milwaukee & Gary, the Chicago, Terre Haute & Southeastern and Milwaukee west of the Missouri River as if independently operated.

10. A statement of the amount of freight surcharges collected from 1932 to 1936 inclusive.

11. A statement of the total reduction in payrolls each year from 1932 to 1936 due to the 10 per cent pay cut.

12. An analysis of freight revenue and tonnage for 1936 by commodities.

Finance Director Sweet, in his letter to the company's counsel, said that this request should not be construed as a limitation of the information which may be presented at the hearing on June 16.

Sargent Asks Data On Middle West Traffic

Testifying before the Interstate Commerce Commission on May 25 at the resumption of hearings on the reorganization of the Chicago & North Western, F. W. Sargent, president of the road, urged that a comprehensive survey be made of conditions in the Mississippi valley to determine the factors that have contributed to the financial difficulties of railroads that operate in this area. Mr. Sargent requested that the commission defer final action on the reorganization of the Chicago & North Western pending further studies of the road's properties, the section that it covers, and the factors that are now tending to increase the road's operating expenses. In his statement before the commission, Mr. Sargent said that he did not agree with the results of the studies that have thus far been made which have shown a non-too-bright future for his road.

He said that he felt that a thorough investigation of mid-continental conditions is necessary before any plans for reorganization of railroads are adopted in order that the savings of vast numbers of railroad investors may be saved from being wiped out. Mr. Sargent asserted that "out

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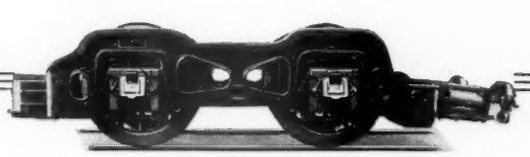
RAILWAY MEN THE WORLD OVER

are keenly interested in what America does *to better transportation*

Jerky Starting

Passenger comfort is being increasingly studied on the railways in America, and means devised for further improving the lot of the traveller in this respect. Air-conditioning has been brought to a stage of high efficiency, and has done as much as anything towards the end in view. It is, however, realised by those responsible for the building and running of the trains that even when this has been added to other amenities, such as improved seating and window design, more harmonious selection of upholstery patterns and paintwork, subtle lighting effects, and other similar attractions, there still remains one very essential thing to be done, namely, to eliminate shock when starting and, indeed, anything that interferes with smooth riding of the vehicles on the track. What is particularly aimed at is the avoidance of jerky starting, and apparently it is generally considered that the best way of preventing this is by equipping the locomotives with boosters, it being held that by this means a train can be got under way smoothly, and accelerated quickly with no jolting of the passengers or strain on the engines and coaches. Regarded from this viewpoint it is claimed that if the booster is needed only for three minutes at a time, it justifies its use.

From Editorial
Railway Gazette—London
April 9, 1937



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

of all such studies there might come plans for consolidations and possible revisions of rate structures, including the entire problem of divisions of through rates, all of which might tend to preserve the equities of creditors and stockholders who had invested their funds in these properties devoted to the service of the public."

The objectives of such a survey as Mr. Sargent requested would be to determine what has happened in the way of rate adjustments, classes of traffic moving, and the trend of traffic since 1911 that has resulted in the average earnings per ton mile for the Eastern roads being 60 per cent higher than they were in 1911, whereas for the Chicago & North Western they are only 11 per cent higher. Another objective of the survey would be to determine what effect the Panama Canal has had in helping to bring about this condition by reason of the greater increase in population being centred in 50 miles bands around either coast and the greater development of manufacturing and industrial centers, with the Middle West in between, unable to reach these markets.

Mr. Sargent also told the commission that during the past few months he had been negotiating with certain C. & N. W. creditors in an effort to eliminate certain points of difference. Mr. Sargent said that despite the fact that the institutional investors would submit a plan of their own, he was confident that many differences could be reconciled. It was brought out that studies are now being made upon which the investors' plan will be based and that these studies relate to the contribution of income and severance values of the several mortgages together with a study of savings to the system, by certain of the mortgage divisions.

Besides the fact that these studies are not completed, Mr. Sargent objected to giving final testimony on the plan of reorganization because of "serious contingencies" affecting or likely to affect operating costs that have arisen since the drafting of the plan. Mr. Sargent estimated that these contingencies might increase operating costs by as much as $8,000,000 a year. He included the following items as likely to increase costs:

1. Demands of rail labor for wage increases in all branches of service ranging from 20 to 50 per cent.

2. Notice of increases in the cost of supplies and materials, which at present average around 18 per cent over the 1936 prices.

3. An increase in the cost of fuel, which may be augmented in the final application of the bituminous coal act of Congress.

Fairman R. Dick, investment analyst and railroad finance authority, appeared before the commission and urged that the capital structures of bankrupt roads not be "patched up" hurriedly without a thorough study of the underlying causes of financial difficulties.

At the session of the commission on May 26 F. A. Pearson of Cornell University occupied the stand and presented a lengthy exhibit showing the variations in business activity and the resultant effects on railroads.

Supply Trade

D. W. Lamoreaux, vice-president of the Journal Box Servicing Corporation, with headquarters at Chicago, has been elected vice-president of the **Peerless Equipment Company,** Chicago. He was born in Elmvale, Ont., in 1887 and entered railway service as a machinist for the Wheeling & Lake Erie at Brewster, Ohio. After holding this position for several years, he entered the employ of the Baltimore & Ohio and later the Pennsylvania and the New York Central, working up from the position of machinist to foreman and general foreman. He returned to the Wheeling & Lake Erie as general foreman and several years later resigned to become sales engineer for the National Refining Company, with which company subsequently he was promoted to manager of sales. He held the latter position until 1932, when he was elected vice-president of the Journal Box Servicing Corporation at Indianapolis. Two years later he was placed in charge of this company's Chicago office, which position he has held until his recent appointment.



D. W. Lamoreaux

Dudley A. Bonitz, a sales representative of the **Ryan Car Company,** Chicago, has been appointed to the newly-created position of sales manager. **C. D. Hicks** has been appointed sales agent in the St. Louis territory with headquarters at 1218 Olive street, St. Louis.

Edward J. Mehren has resigned as president of the **Portland Cement Association,** effective August 31, to devote his time to personal interests. Mr. Mehren has held this position since 1931, being the first full-time, paid president of the Association. Prior to his connection with the Portland Cement Association, he was editor of Engineering News-Record and vice president of the McGraw-Hill Publishing Co.

The Columbia Steel Company, subsidiary of the United States Steel Corporation, San Francisco, Cal., has made appointments in its general sales department, as follows: **J. D. Fenstermacher** has been appointed manager of sales, Steel Casting and Railroad Sales Division; **E. S. Duval** has been appointed manager of sales, alloy and stainless steel products, and **F. R. Steckel** assistant manager of sales, alloy and stainless steel products.

The Crane Company, Chicago, has co-ordinated all activities concerned with the estimating, engineering and sales of valves, fittings, pipe, and fabricated piping into one unit, the **Valve and Fitting Department,** with **W. H. Pape,** formerly manager of the Oil Sales Department, as manager. At the same time, the former Industrial Sales Department and the Engineering Sales Department have been consolidated into a new section—the **Engineering Sales Section** of the **Valve and Fitting Department.** Other sections of the new consolidated department include Pipe Sales, Marine Sales, Oil Sales, Railroad Sales, and Water Works Sales.

OBITUARY

Charles E. Heath, vice-president and general manager of the Fate-Root-Heath Company, Plymouth Locomotive Works, Plymouth, Ohio, died on May 19, at the age of 66 years.

Russell T. Gray, president of Russell T. Gray, Inc., Chicago advertising concern, died in a hospital at Evanston, Ill., on May 26 following a brief illness. He was forty-four years of age.

Equipment and Supplies

FREIGHT CARS

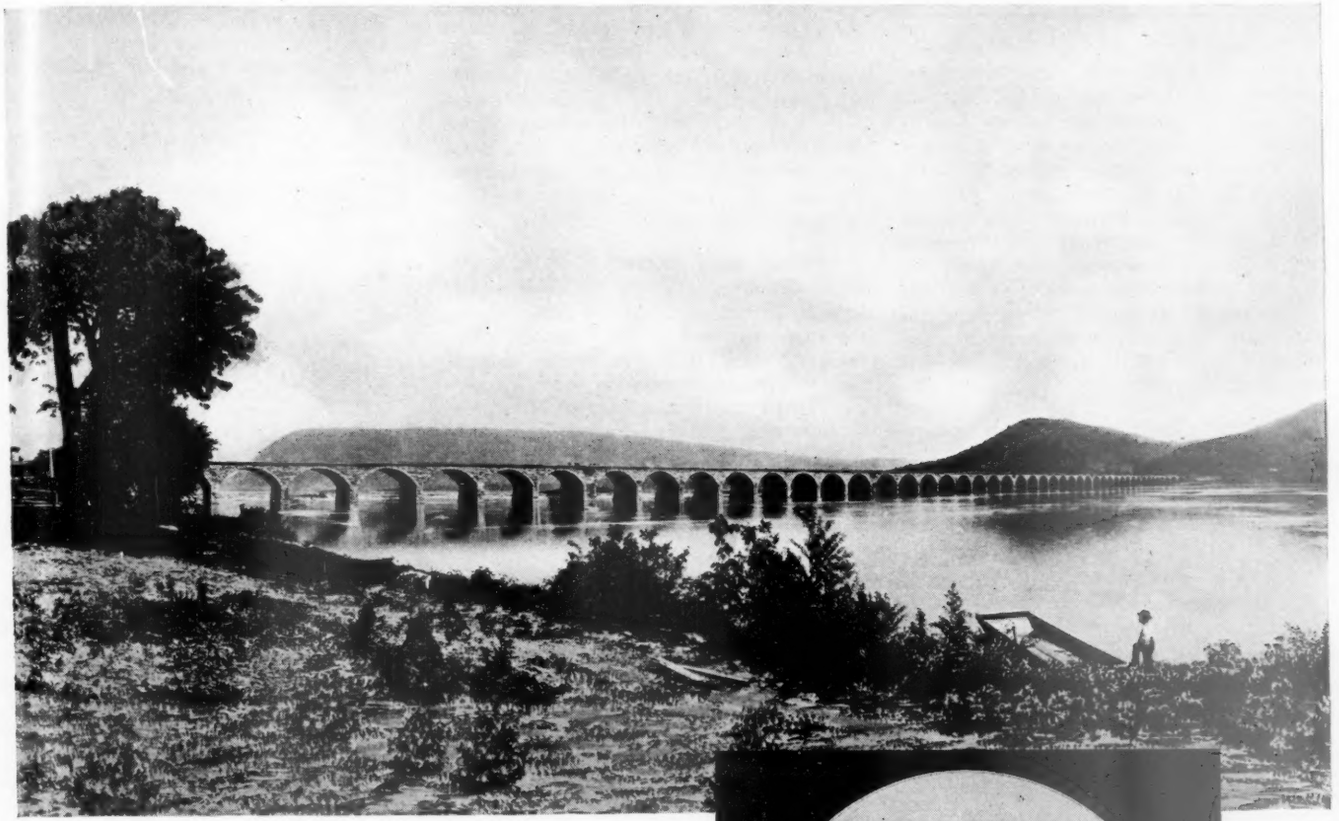
THE UTAH COPPER COMPANY is inquiring for 10 dump cars of 30-yd. capacity.

SIGNALING

NEW YORK, NEW HAVEN & HARTFORD.—An order has been placed with the Union Switch & Signal Company by the Baldwin Locomotive Works for five sets of locomotive cab signal equipment for installation on five new 4-6-4 streamline locomotives for the New York, New Haven & Hartford. This equipment is arranged for operation as a continuous four-indication code system on the New Haven's Shore Line division between New Haven, Conn., and Providence, R. I., and also as a continuous two-indication non-code system between New Haven, Conn., and Springfield, Mass. Each set of locomotive equipment includes a color light signal in the engineer's side of the cab, as well as one in the fireman's side of the cab, and a warning whistle sounds following all changes to a more restrictive signal indication until the signal change is acknowledged by the engineman.

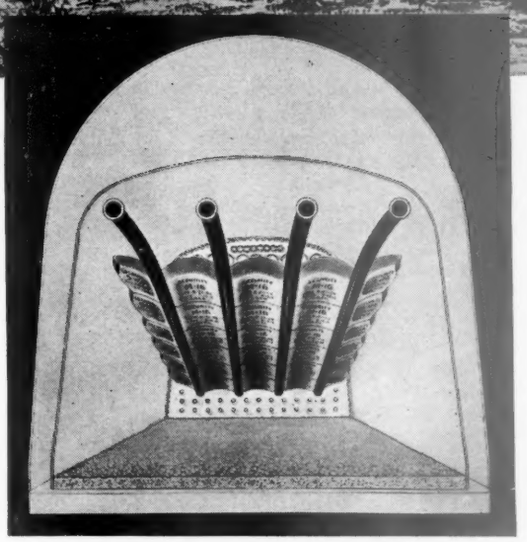
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NO. 17 OF A SERIES OF FAMOUS ARCHES OF THE WORLD



ROCKVILLE BRIDGE

The Rockville Bridge, the largest stone arch bridge in the world, carries the Main Line of the Pennsylvania Railroad across the Susquehanna River from Rockville on the East to Marysville on the West. It is located five and one-half miles north of Harrisburg, Pa. The bridge is 52 feet wide and 3,850 long. It consists of 48 stone arches and required 440 million pounds of stone to build.



"There's more to Security Arches than just brick"

This spirit of progress that recognizes no barriers is what has made the American Railroads the greatest land transportation in the world. Aiding in this the Security Sectional Arch for the locomotive firebox has increased locomotive capacity and improved fuel economy—two factors essential to the low cost of locomotive operation.

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED

Locomotive Combustion Specialists » » »

Financial

BANGOR & AROOSTOOK. — *Equipment Trust Certificates.*—The Interstate Commerce Commission, Division 4, has authorized this company to assume liability for $420,000 of 2½ per cent equipment trust certificates, maturing serially in the sum of $20,000 on December 1, 1937, and $40,000 annually thereafter from December 1, 1938, to and including December 1, 1947. There have been no negotiations for the sale of these certificates, and the company asks authority to purchase the certificates and hold them in its treasury pending authorization from the commission for their sale.

CANADIAN PACIFIC.—*Operation of Boat Line.*—This company has applied to the Interstate Commerce Commission for authority to install a steamship service to be known as the Canadian Pacific Great Lakes Line between Port McNicoll, Ont., and Milwaukee, Wis., and Chicago.

CASEY & KANSAS.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this company to abandon its entire line extending from Casey, Ill., to Kansas, 19.53 miles, as to interstate and foreign commerce. The order also authorizes the Kansas & Sidell to abandon operation of the line.

CENTRAL OF GEORGIA.—*Equipment Trust.*—The Interstate Commerce Commission, Division 4, has dismissed the application of the receiver of this company to guarantee the payment of principal and dividends of $220,000 of equipment trust certificates, series T.

CENTRAL OF GEORGIA.—*Equipment Trust Certificates.*—The receiver has applied to the Interstate Commerce Commission for authority to assume liability for $1,400,000 of 4 per cent equipment trust certificates, maturing in installments of $98,000 on July 1, 1938, and $93,000 on July 1, from 1939 to 1952.

CHESAPEAKE & OHIO.—*Stock.*—The Interstate Commerce Commission, Division 4, has modified its order of December 3, 1936, so as to permit this company to substitute uncapitalized net expenditures for equipment in the amount of $15,315,500 in lieu of a like amount of expenditures heretofore accepted as a basis for the issue of $15,315,500 of preference stock, series A.

CHESWICK & HARMAR.—*Certificate of Operation.*—This road operating 4.18 mi. of main line extending from a connection with the Pennsylvania at a point near the dividing line of the boroughs of Cheswick, Pa., and Springdale, to a connection with the Bessemer & Lake Erie near River Valley Station, Pa., has applied to the Interstate Commerce Commission for a certificate authorizing its operation as an interstate common carrier. The application was prompted by legal advice that the status of the line must be determined.

CHICAGO & NORTH WESTERN.—*Abandonment and Trackage Rights.*—Trustees of this road have applied to the Interstate Commerce Commission for authority to abandon its 12.9-mi. Amasa branch and a 1.3-mi. section of its Mansfield branch, both located in Iron County, Mich. The application also seeks authority to execute an agreement with the Chicago, Milwaukee, St. Paul & Pacific for trackage rights over the latter's main line from a point near Crystal Falls, Mich., to a point where the Milwaukee main line diverges from the C. & N. W.'s Amasa branch.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*Equipment Trust Payments.*—The federal district court at Chicago has authorized trustees of the Chicago, Milwaukee, St. Paul to pay 20 per cent of the principal amounts of the series J equipment trust certificates of the Milwaukee & Northern, maturing June 1, 1935, 1936 and 1937, and semi-annual interest of 2¼ per cent on June 1 on Milwaukee and Northern first extended 4½ per cent bonds due 1939 and consolidated extended 4¼s of 1939.

DELAWARE VALLEY. — *Abandonment.* — The Interstate Commerce Commission, Division 4, has authorized this company to abandon its entire line, extending from East Stroudsburg, Pa., to Bushkill, 12 miles, as to interstate and foreign commerce.

DENVER & RIO GRANDE WESTERN.—*Acquisition.*—Trustees of this road have applied to the Interstate Commerce Commission for authority to acquire from the Colorado & Southern the latter's narrow-gage Baldwin line, extending from a connection with the D. & R. G. W. at Gunnison, Colo., to Baldwin and Kubler, a total of 19.4 mi. The application points out that for many years this Baldwin line has had no physical connection with other tracks of the C. & S.

DULUTH, MISSABE & NORTHERN.—*Consolidation.*—This road and the Spirit Lake Transfer have filed with the Interstate Commerce Commission an application for authority to consolidate into a new Minnesota corporation to be known as the Duluth, Missabe and Iron Range Railway Company. The Spirit Lake is now operated by the D. M. & N. under a 99-year lease, dated August 1, 1915. The $4,112,500 par value of stock to be issued by the new company would be distributed $3,976,376.25 to stockholders of the D. M. & N. and $136,123.75 to stockholders of the Spirit Lake, the apportionment being based on the net book values as of March 31, 1937.

ETTRICK.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its entire line extending from Ettrick, Wis., to Blair, 10½ miles.

HOUSTON BELT & TERMINAL.—*Bonds.*—This company and the Gulf, Colorado & Santa Fe; the Burlington-Rock Island; the St. Louis, Brownsville & Mexico, and Guy A. Thompson, its trustee; the Beaumont, Sour Lake & Western and Guy A. Thompson, its trustee, have applied to the Interstate Commerce Commission for authority to issue $3,600,000 of Houston Belt & Terminal 3½ per cent 30 year first mortgage bonds, to be dated July 1, 1937.

ILLINOIS CENTRAL.—*Extension of R.F.C. Loans.*—The Interstate Commerce Commission, Division 4, has approved the extension of the time of payment, for terms of not more than two years, of loans of $2,483,333, $7,449,667, and $7,494,000 to this company from the Reconstruction Finance Corporation, maturing in the aggregate amount of $9,933,000 on May 31 and $7,494,000 on June 18.

KANSAS & SIDELL.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this company to abandon the part of its line extending from Hume, Ill., to Sidell, 8.3 miles.

MAINE CENTRAL. — *Acquisition.* — The Maine Central Transportation Company has applied to the Interstate Commerce Commission for authority to purchase the Portland-Conway Stages operating between Portland, Me., and Jackson, N. H.

NEW YORK CENTRAL.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this company to abandon operation of and the Chicago, Kalamazoo & Saginaw to abandon the line of the latter extending from Delton, Mich., to Woodbury, 26.7 miles.

NEW YORK, NEW HAVEN & HARTFORD. —*Abandonment.* — The Interstate Commerce Commission, Division 4, has authorized the trustees to abandon operation and the trustees of the Old Colony to abandon the line from Dighton Station, Mass., to Somerset Junction, 3.24 miles.

NEW YORK, NEW HAVEN & HARTFORD. —*Abandonment.* — The Interstate Commerce Commission, Division 4, has authorized the trustees to abandon operation and the trustees of the Old Colony to abandon that part of a line extending from Middleboro Station, Mass., to Myrics Station, 5.83 miles.

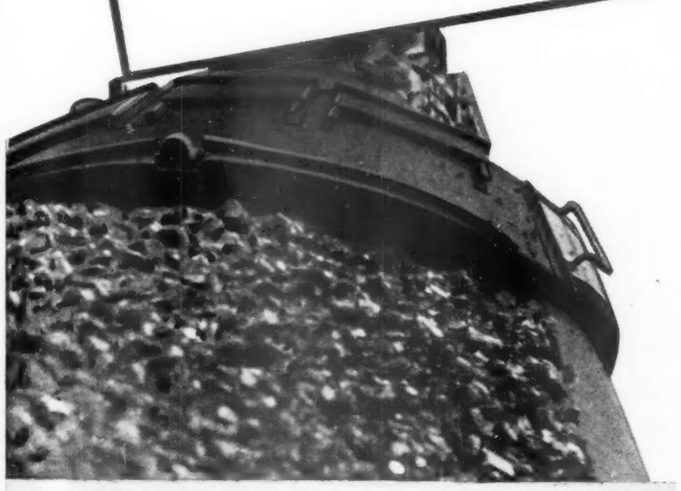
NEW YORK, NEW HAVEN & HARTFORD.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized the trustees to abandon operation and the trustees of the Old Colony to abandon the line extending from Raynham Station, Mass., to Dean Street Station, Taunton, 2.63 miles.

NEW YORK, NEW HAVEN & HARTFORD. —*Bonds.*—The trustees have submitted to the Interstate Commerce Commission for its approval a plan to effect the extension until June 1, 1947, of $1,346,150 of bonds of three of this company's street railway properties. The Public Works Administration and the Reconstruction Finance Corporation have also been asked to assent to this postponement, since they hold portions of these securities as collateral for loans made to the New Haven.

NEW YORK, ONTARIO & WESTERN.—*Bankruptcy.*—This company, in which the New Haven has a majority stock interest, last week petitioned and was granted in the federal court at New York permission to reorganize under Section 77 of the Bankruptcy Act. June 14 was set as the date of hearing to consider the appoint-

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Offset Fuel Price *Increases* with a *Decrease* in Fuel Rate



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Representative of American Throttle Company, Inc.

60 East 42nd Street, New York
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The general trend in price levels is undeniably upward.

Drawbar horsepower, however, can be maintained, with a decrease in the fuel rate of 12%-15% . . . when locomotives are equipped with Elesco feed water heaters.

Elesco feed water heaters embody simplicity with ruggedness . . . no moving parts with exception of pump . . . low steam consumption and maintenance.

Its economy and dependability merit its application to your locomotives.

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ment of trustees. The petition was signed by Edward G. Buckland, president of the road, but was not accompanied by a plan for the reorganization. Mr. Buckland estimated current obligations at approximately $4,543,660 due up to January 1, 1938. Traffic and earnings prospects, according to the petition, indicated that only about $1,474,486 would be available to meet this total.

The obligations were itemized as follows: Real estate taxes assessed in 1936 and due in January and February, this year, $209,800; school and highway taxes due between May 19, 1937, and January 1, 1938, estimated at $40,000; city taxes, $35,503; state unemployment taxes, $36,000; federal retirement taxes, $114,200; maturities, including demand bank loans, $2,331,731; interest, $1,262,639; leased-line rentals, due in January, February and March, this year, $61,785, and leased-line rentals falling due between May 1, 1937, and Jan. 1, 1938, $452,000.

The petition said the debtor's cash balance on May 18 was $149,486 and that cash from all sources for the remainder of the year would be approximately $5,700,000. The necessary operating expenditures were estimated at $4,375,000, however, which would leave available the $1,474,486 figure for the obligations enumerated.

Protective Committee. — Institutional holders of this company's bonds have formed a protective committee under the chairmanship of Richard Painter, of the New York Life Insurance Company.

NEW YORK, ONTARIO & WESTERN.—*Bonds.*—This company has asked the Interstate Commerce Commission for authority to extend the time of pledging of $3,370,000 of general mortgage bonds from June 30, 1937, to June 30, 1939.

NEW YORK, SUSQUEHANNA & WESTERN. —*Bond Extension.* — Directors have announced that the plan for extension to 1940 of maturity of this company's first and second refunding mortgage bonds under which the Erie would guarantee interest during the period of extension will not be declared operative unless 85 per cent of holders of each issue assent.

ST. LOUIS-SAN FRANCISCO.—*Annual Report.*—The 1936 annual report of this company shows net deficit, after interest and other charges, of $7,722,727 as compared with net deficit of $11,560,016 in 1935. Selected items from the consolidated income account follow:

	1936	1935	Increase or Decrease
Average mileage operated	5,545.98	5,602.10	-56.12
RAILWAY OPERATING REVENUES	$50,182,968	$42,425,021	+$7,757,937
Maintenance of way	7,623,113	7,963,689	-340,576
Maintenance of equipment	8,355,927	7,303,565	+1,052,362
Transportation	18,274,159	16,319,547	+1,954,612
TOTAL OPERATING EXPENSES	41,170,782	37,906,701	+3,264,081
Operating ratio	82.04	89.35	-7.31
NET REVENUE FROM OPERATIONS	9,012,185	4,518,319	+4,493,865
Railway tax accruals	*3,713,420	2,865,334	+848,085
Hire of equipment—Net	118,865	109,607	-228,473
Joint facility rents—Net	300,741	282,328	+18,413
NET RAILWAY OPERATING INCOME	5,116,888	1,261,048	+3,855,839
Non-operating income	153,071	297,232	-144,161
GROSS INCOME	5,269,959	1,558,281	+3,711,678
TOTAL DEDUCTIONS FROM GROSS INCOME	72,789	81,934	-9,145
INTEREST ON FIXED CHARGE OBLIGATIONS	12,919,898	13,036,363	-116,464
NET INCOME (Deficit)	$7,722,727	$11,560,016	+$3,837,288

* Includes $981,015.61 accruals for Federal Railroad Retirement Act of 1935 and Federal and State Unemployment Acts.

Average Prices of Stocks and Bonds

	May 25	Last week	Last year
Average price of 20 representative railway stocks..	55.40	55.89	47.15
Average price of 20 representative railway bonds..	80.46	80.24	79.24

Dividends Declared

Atchison, Topeka & Santa Fe. — Preferred, $2.50, semi-annually, payable August 2 to holders of record June 25.

Atlanta, Birmingham & Coast. — Preferred, $2.50, semi-annually, payable July 1 to holders of record June 12.

Boston & Albany.—$2.50, payable June 30 to holders of record May 29.

Chestnut Hill.—75c, quarterly, payable June 4 to holders of record May 20.

Delaware & Bound Brook.—$2.00, quarterly, payable May 20 to holders of record May 17.

Illinois Central-Leased Lines.—$2.00, payable July 1 to holders of record June 11.

Kansas, Oklahoma & Gulf.—Series A, 6 Per Cent Cumulative Preferred, $3.00, semi-annually; Series B, 6 Per Cent Non-cumulative Preferred, $3.00, semi-annually; Series C, 6 Per Cent Non-cumulative Preferred, $2.00, all payable June 1 to holders of record May 25.

Reading.—50c, quarterly, payable August 12 to holders of record July 15.

Union Pacific.—$1.50, payable July 1 to holders of record June 1.

West Jersey & Seashore.—6 Per Cent Special Guaranteed, $1.50, payable June 1 to holders of record May 15.

Construction

LONG ISLAND.—The general contract for removal of two grade crossings and building a new bridge at Woodhaven boulevard in Glendale, L. I., has been let to Tully & Di Napoli, Inc., Long Island City, New York. See *Railway Age,* May 15, page 843.

STATEN ISLAND RAPID TRANSIT RAILWAY COMPANY.—This Baltimore & Ohio subsidiary has given a contract to Perlman & Wortmann, Inc., New York, for building construction at Lynhurst, Chestnut and Cedar avenues, Staten Island, N. Y., to cost about $27,000. A low bid of $49,000 has been received from Perlman & Wortmann, Inc., for building construction at St. Mary's avenue, Staten Island. See *Railway Age,* May 1, page 772.

WABASH.—A contract has been awarded to the Roberts & Schaefer Company, Chicago, for the construction of a 400-ton capacity coaling station of reinforced concrete construction at Decatur, Ill. This station will serve four tracks and will cost approximately $50,000.

Railway Officers

EXECUTIVE

William C. Hull, assistant vice-president of the Chesapeake & Ohio, who will become vice-president in charge of traffic of the C. & O., and the Pere Marquette on July 1, as announced in the *Railway Age* of May 22, has been in the service of this company for about 40 years. A native of Bond Hill, Ohio, Mr. Hull was born on September 8, 1880. He first entered railway service in March, 1895, with the Baltimore & Ohio Southwestern (now part of the B. & O.) at Cincinnati, Ohio. From August, 1897, to February, 1918, he served consecutively as secretary to the assistant freight traffic manager, chief clerk to the vice-president, and assistant to the vice-president in charge of traffic on the Chesapeake & Ohio and the Hocking Valley (now part of the C. & O.). During federal control of the railroads, Mr. Hull served as assistant to the manager of inland fuel traffic for the United States Railroad Administration, at Washington, D. C. Coincident with the resumption of private operation of the railroads following the war, Mr. Hull returned to the C. & O. as assistant to the vice-president in charge of traffic. On June 19, 1928, he was appointed assistant vice-president in charge of traffic.

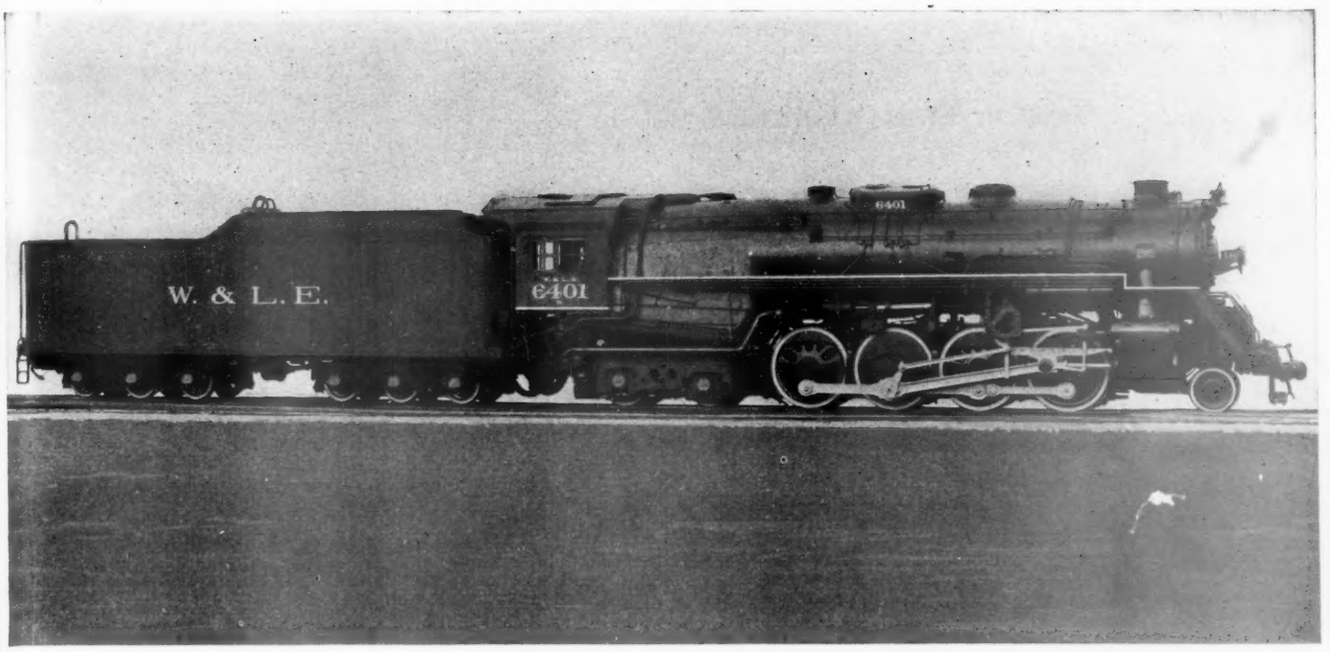


William C. Hull

W. E. Smith, general manager of the Louisville & Nashville, has been appointed to the newly-created position of vice-president and general manager, and **Thomas E. Brooks,** vice-president in charge of operation, has retired because of ill health. **Rolla C. Parsons,** superintendent of transportation and director of personnel, has been appointed to the newly-created position of assistant vice-president, continuing to serve as director of personnel. All of these officers have their headquarters at Louisville, Ky.

Mr. Smith has been identified with the L. & N. continuously for 52 years. He is a native of Georgetown, Ind., and was born on September 13, 1868. He obtained his first railway experience as a water boy on the L. & N. at the age of 12 years,

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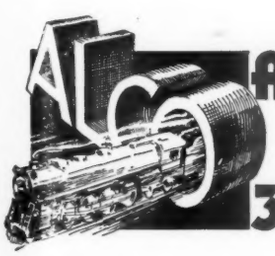
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Strictly Modern Design
replacing 2-8-2 & 2-6-6-2 Compound Mallets
in manifest coal traffic

NEW POWER—NEW PROFITS

P. S. It is estimated that weekly car loadings this fall will pass 900,000

Weight on Drivers	259,500 pounds	Diameter of Drivers	69 inches
Weight of Engine	407,500 pounds	Boiler Pressure	245 pounds
Cylinders	25 x 34 inches	Maximum Tractive Power	64,130 pounds



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serving in this capacity during school vacations. After completing his studies Mr. Smith re-entered the service of the L. & N. as a section laborer on April 1, 1885, at London, Ky. On January 1, 1887, he was promoted to section foreman and on



W. E. Smith

March 20, 1888, was further advanced to crosstie inspector and to clerk in the roadmaster's office. On June 25, 1890, Mr. Smith was promoted to track supervisor, serving in this capacity on the Lebanon branch and on the Cumberland Valley division until March 20, 1895, when he was made roadmaster of the Lebanon branch. After serving in this capacity on various divisions he was promoted to assistant superintendent of the Birmingham division on August 1, 1905, in charge of maintenance of way and structures. Seven years later he was given the title of superintendent of construction, for the entire system, serving in this position until December 1, 1914, when he was appointed superintendent at Evansville, Ind. On November 1, 1920, he was transferred to the Birmingham division and on January 1, 1924, he was promoted to assistant general man-



Thomas E. Brooks

ager, and further advanced to general manager on January 15, 1931.

Mr. Brooks is a native of Ashley, Ill., and was born on December 4, 1865. His first service with the L. & N. was during the summer months of 1880 and 1881, when he worked in the freight house at Ashley. Concurrently he studied telegraphy and, after completing his high school education, became night operator at Ashley, commencing on May 12, 1882. In 1885 he was made chief clerk to the assistant superintendent at Evansville, Ind., and in 1888 he was sent to Louisville as secretary to the superintendent. Later he was appointed chief clerk to the superintendent of transportation and in 1896 was sent to the Memphis division as trainmaster. In the following year he was appointed general agent at Florence, Ala., and was later made assistant superintendent of the Nashville division. In 1901 he was advanced to superintendent of that division, being transferred to the Birmingham division in 1905. In 1921 Mr. Brooks was appointed assistant general manager and in 1924 he was further promoted to general manager. He has been vice-president in charge of operation since 1931.

Mr. Parsons was born on July 15, 1890, at Livingston, Ky., and obtained his first railway experience as a telegraph operator on the L. & N. in October, 1905. On March 15, 1907, he severed his connection with this company and for some time worked as a telegraph operator on various



Rolla C. Parsons

other railroads. He re-entered the service of the L. & N. on July 1, 1911, as a telegraph and copying operator in the dispatcher's office at Earlington, Ky., holding this position until April 1, 1913, when he was promoted to dispatcher on the Henderson division. Thereafter, he served as dispatcher at several points until May 1, 1917, when he was promoted to assistant and night chief dispatcher on the Eastern Kentucky division. In the following year he was further promoted to assistant trainmaster and on July 1, 1920, was advanced to system car dispatcher in the office of the superintendent of transportation at Louisville. On March 1, 1923, Mr. Parsons was appointed to the newly-created position of chairman of the Mine Rating Bureau at Louisville. He was appointed assistant superintendent of transportation on May 6, 1929, superintendent of transportation on March 10, 1931, and superintendent of transportation and director of personnel on August 16, 1936.

FINANCIAL, LEGAL AND ACCOUNTING

B. H. Wettlaufer, assistant freight claim agent of the Delaware, Lackawanna & Western, has been appointed freight claim agent, with headquarters at Scranton, Pa., effective June 1, to succeed the late **Walter H. Gaskill. Henry W. Ruger,** chief clerk, and **Walter J. Silick,** special claim clerk in the office of the general superintendent at Scranton, have been



B. H. Wettlaufer

appointed assistant freight claim agents, effective June 1. Mr. Wettlaufer entered the service of the Lackawanna in 1906 as mail clerk in the New York office, and in 1917 he was advanced to the position of loss and damage investigator of the freight claim department. He was appointed chief clerk of the department in January, 1923. In October, 1932, Mr. Wettlaufer was promoted to assistant freight claim agent, with headquarters at Scranton, the position he held until his recent appointment.

OPERATING

J. G. Metcalfe, assistant superintendent of transportation of the Louisville & Nashville, has been promoted to superintendent of transportation, to succeed **Rolla C. Parsons,** whose appointment as assistant vice-president is noted elsewhere in these columns. **Chester A. Bradshaw,** inspec-

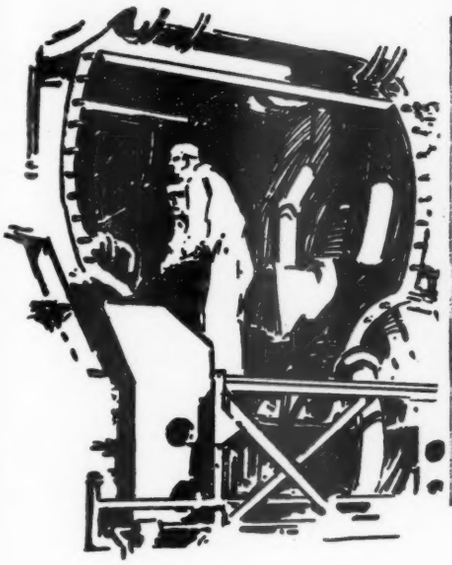


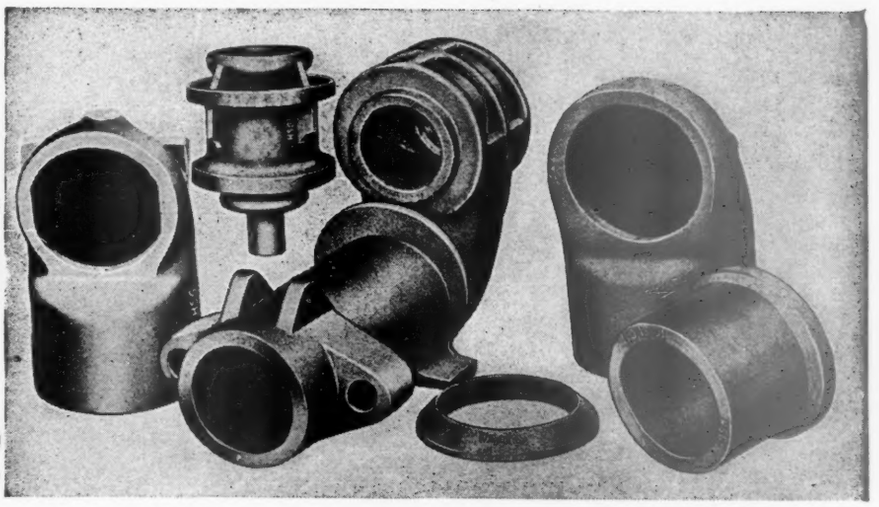
J. G. Metcalfe

tor of transportation, has been appointed assistant to the general manager. All these officers have headquarters at Louisville, Ky.

Mr. Metcalfe was born at Louisville on April 20, 1882, and was educated at Massachusetts Institute of Technology, graduating in 1904. He served with the L. & N. as a rodman before his graduation, re-

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H S G I Dry Pipe Sleeves and Elbows, Throttle Stand Pipes, Throttle Valves and Throttle Cases are free from material defects, prolonging the life of these vital parts and preventing leaks which result in expensive renewals.

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turning to the railroad after college on September 1, 1905, as a clerk in the trainmaster's office at Middlesboro, Ky. Subsequently, he served as yardmaster at Appalachia, Va., yardmaster at Corbin, Ky., assistant trainmaster of the Nashville division, trainmaster of the Cincinnati division, assistant superintendent of the Cincinnati division and superintendent of the latter division, being promoted to the latter position on January 1, 1924. He has served as assistant superintendent of transportation since August 16, 1936.

H. V. Lonis, chief dispatcher on the Chicago, Burlington & Quincy at Galesburg, Ill., has been appointed assistant to the general manager with headquarters at Chicago. In this position, which is a newly-created one, Mr. Lonis will have duties primarily in connection with the supervision of train service, locomotive tonnage ratings, and power assignments.

TRAFFIC

F. M. Kitchell has been appointed district freight agent of the Southern, with headquarters at Birmingham, Ala.

Tracy L. Bothwell, assistant general freight agent of the Gulf, Colorado & Santa Fe at Galveston, Tex., has been appointed assistant freight traffic manager of the Atchison, Topeka & Santa Fe at Chicago to succeed the late **D. L. Meyers.**

MECHANICAL

H. C. Wright, assistant master mechanic of the Pittsburgh division of the Pennsylvania, has been appointed to the newly-created position of assistant engineer motive power of the Western region with headquarters at Chicago. **W. O. Teufel,** master mechanic of the Western Pennsylvania division, has been transferred to the Columbus, Cincinnati and Toledo divisions with headquarters at Columbus, Ohio, to succeed **L. B. Jones,** whose appointment as engineer of tests at Altoona, Pa., was reported in the *Railway Age* of April 24.

PURCHASES AND STORES

John R. Watt, assistant purchasing agent of the Louisville & Nashville, has been advanced to general purchasing agent with headquarters as before at Louisville, Ky., to succeed **Harry T. Shanks,** who has retired because of ill health.

Mr. Watt has been in the service of the Louisville & Nashville for 32 years. He was born on April 16, 1884, at Greenfield, Ohio, and attended Salem academy, South Salem, Ohio, and later the University of Ohio. He entered railway service in August, 1905, as a rodman on the Louisville division of the L. & N., serving as an instrumentman and assistant engineer on the Cumberland Valley and Louisville divisions, as assistant engineer at Birmingham, Ala., and for a short time in the chief engineer's office at Louisville. In 1914 he was promoted to roadmaster of the Nashville division, which position he held until 1917, when he was further advanced to general roadmaster with headquarters at Louisville. On February 15, 1932, Mr. Watt was advanced to engineer maintenance of way, which position he held until



John R. Watt

his appointment as assistant purchasing agent in the spring of 1936.

Mr. Shanks' retirement marks the close of nearly 53 years' service with the L. & N. A native of Louisville, Ky., Mr. Shanks first entered the service of the L.



Harry T. Shanks

& N. on October 1, 1884, as a clerk in the car accountant's office at Louisville, Ky. In 1890 he was advanced to chief clerk in this department, which position he held until 1896, when he was appointed car accountant of the Atlanta & West Point and the Western Railway of Alabama (affiliates of the L. & N.), with headquarters at Montgomery, Ala. Later Mr. Shanks also served as car accountant of a number of other affiliates of the L. & N. In 1906 he returned to Louisville as chief clerk in the purchasing department of the parent company. On October 26, 1916, he was advanced to assistant purchasing agent and less than a year later he was further promoted to purchasing agent, his title later being changed to general purchasing agent.

Railroad Symbols of Modernity

"The miracle of the airplane is incomparably more heart-stirring and more dazzling than the miracle of the steam locomotive in its day, though that was thrilling enough in its generation. But up to now, for sheer impact on the common life, there is simply no comparison between the record of the flying machine and the railroad. It is the volume of freight (railroad) that measures the pulse of a modern industrial civilization."

(*From the New York Times*)

SPECIAL

C. S. Cannon, trainmaster of the Seaboard Air Line at Jacksonville, Fla., has been appointed director of personnel, with headquarters at Norfolk, Va.

ENGINEERING AND SIGNALING

G. A. Rodger, assistant signal engineer of the Wabash, with headquarters at Decatur, Ill., has been promoted to signal engineer, effective May 16, with the same headquarters, to succeed **Herbert J. Foale,** who has been assigned to special duties. Mr. Rodger was born on August 13, 1893, at Braceville, Ill., and was educated at James Milliken university, Decatur. He entered railway service with the Wabash on August 26, 1912, as a signal helper on a construction gang, later serving as a draftsman and signalman. In 1914 he resigned to attend school, and, while thus engaged, worked with the Wa-



G. A. Rodger

bash in the signal department during summer vacations. During the war Mr. Rodger was commissioned a second lieutenant and served overseas with the A.E.F. for two years, returning in October, 1919. He again entered the service of the Wabash as signal valuation pilot and served intermittently with the valuation and signal departments until October, 1923, when he took a leave of absence to join the sales department of the General Fireproofing Company, Youngstown, Ohio. On April 20, 1925, he returned to the Wabash as assistant signal engineer, holding this position until his recent appointment as signal engineer.

OBITUARY

Fred J. Sawyer, superintendent of the Temiscouata railway, with headquarters at Riviere du Loup, Que., died in that city on May 19 at the age of 51.